ARI hetra™ Lifting Systems

OPERATION AND SERVICE INSTRUCTIONS

Heavy-Duty Mobile Above Ground Lifts

HDML-6 HDML-8 HDML-9

Forklift Adapters

FL-3 FL-3-4 FL-OM-12

IMPORTANT SAFETY INSTRUCTIONS
READ ALL INSTRUCTIONS
SAVE THESE INSTRUCTIONS

Automotive Resources, Inc.

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February 2007 Edition

Introduction

This manual provides operation and service instructions and parts breakdown for the **ARI-HETRA** Heavy-Duty Mobile Lift (HDML) Systems: Models HDML-6AE Series, 8AE Series, 9AE Series and all FL Series.

Read this manual thoroughly before installing, operating, servicing or maintaining the lift and/or forklift adapters and pay particular attention to the **WARNINGS** and **CAUTIONS**. The **ARI-HETRA** systems must be used in accordance with the manual; any misuse will void warranty.

ARI-HETRA has many years of experience in mobile lift manufacturing. This, coupled with our continual working relationship with fleet owners, managers and mechanics, contributes to bringing you the most advanced lifting technology today.

ARI-HETRA's Priorities Are:

SAFETY | SERVICE | SALES

Any specific recommendations to enhance this publication are invited and would be appreciated.

The HDML is approved for indoor installation and use only.

The HDML is not intended for outdoor use.

IMPORTANT SAFETY INSTRUCTIONS

When using your garage equipment basic safety precautions should always be followed, including the following:

1. Read and understand all instructions for the lift and all optional accessories.
2. Inspect the HDML Lifting System daily before use.
3. Care must be taken as burns can occur from touching hot parts.
4. Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged – until it has been examined by a qualified service person.
5. Do not let a cord hang over the edge of the table, bench or counter, or come in contact with hot manifolds or moving fan blades.
6. If an extension cord is necessary, a cord with a current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped over or pulled.
7. Always unplug equipment from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
8. Let equipment cool completely before putting away. Loop cord loosely around equipment when storing.
9. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids (gasoline).
10. Adequate ventilation should be provided when working on operating internal combustion engines.
11. Keep hair, loose clothing, fingers and all parts of body away from moving parts.
12. To reduce the risk of electric shock, do not use on wet surfaces or expose to rain.
13. Use only as described in this manual. Use only **ARI-HETRA** optional accessories and attachments.
14. ALWAYS WEAR SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses, they are not safety glasses.
15. Only allow qualified personnel to operate, maintain, service or repair the lift.
16. Never modify the lift or add/use unapproved adapters or optional equipment to/with the lift.
17. Never overload the lift. The rated load is printed on the lift name plate.
18. Never allow anyone to climb on or ride in the vehicle when raised or lowering.
19. Know and follow all local, national and international health and safety regulations.

SAVE THESE INSTRUCTIONS

Letter From The President

SUBJECT: Safety Advisory
FROM: Robert S. Penenburgh
President
TO: ALL USERS OF THE **ARI-HETRA** MOBILE LIFTING SYSTEM

As President of **AUTOMOTIVE RESOURCES, INC. (ARI),** I am writing to you, a valued customer, to remind you that we believe the **ARI-HETRA** mobile lifting systems are the finest on the market. However, like any other industrial tool, our systems perform most effectively and safely when used in the manner and for the purpose they are designed.

Safety is a major concern at **ARI! ARI-HETRA** systems are clearly marked with several warning labels. The Operation and Service Instructions are provided with each system, which describes explicitly the way in which the equipment should be used.

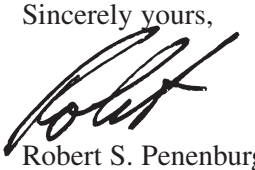
The **ARI-HETRA** hoist is a wheel-engagement system. If a user attempts to use the lifts in any other manner (for example, by lifting the bumpers of a vehicle rather than by the tires), the lift will not perform properly. Improper use could cause injury to the operator, damage to the vehicle or to the lifting system itself.

Please stress to your personnel/users the need to follow the instructions on the warning labels and those contained in the Operation and Service Instructions. **ARI-HETRA** is designed only for use as a wheel engagement system and for use with **ARI-HETRA** optional equipment and accessories.

If wheel-free access is required, please use our adjustable support stands, chassis cross beam and/or FL forklift adapters, in order to engage the vehicle frame members correctly.

Should you have any questions, do not hesitate to contact your local **ARI-HETRA** Representative or if your prefer, you may call me directly.

Sincerely yours,



Robert S. Penenburgh
President

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General Specifications

1.1 **ARI-HETRA** manufactures various models of heavy-duty mobile lifts.

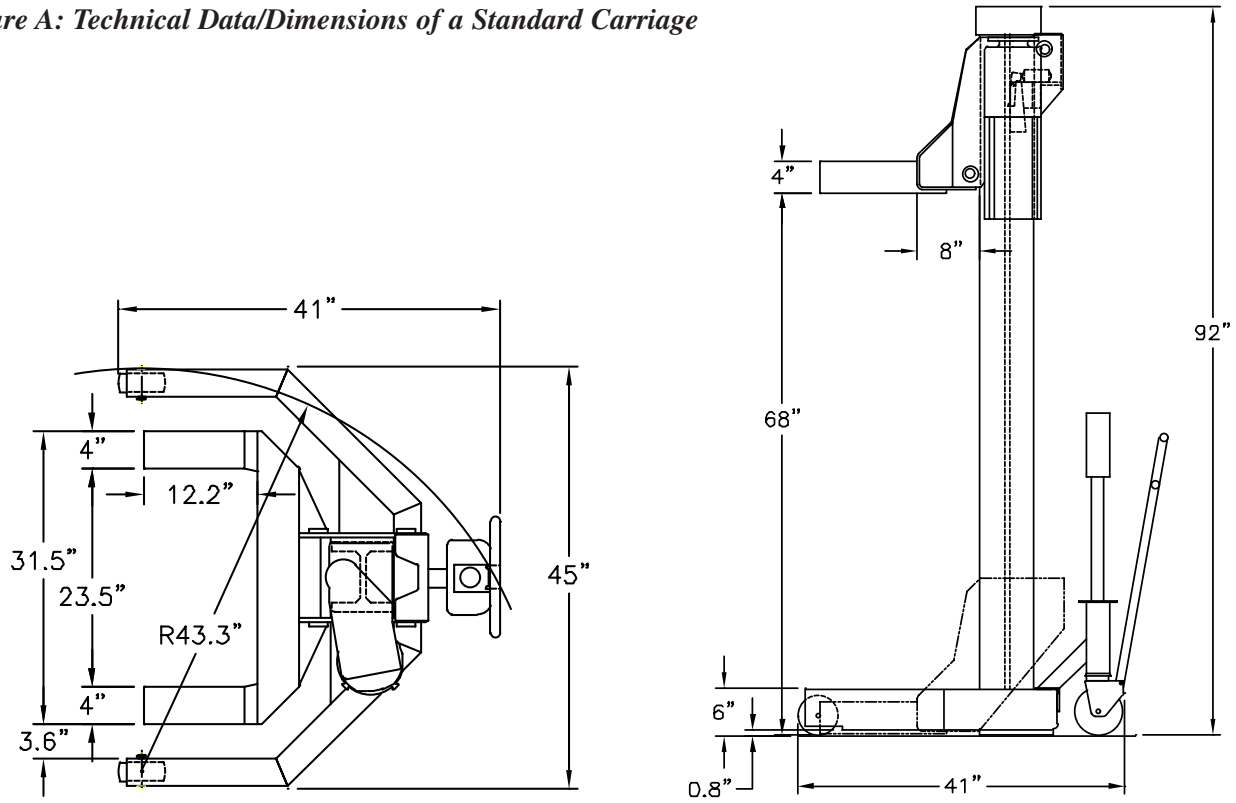
Model Specifications

Model Specification	Number of Columns	Capacity Per Column	Total Capacity	System Amperage	Power Requirements (3 Phase)
HDML 6-4AE	4	12,000 lbs.	48,000 lbs.	30/15	208-230/460-480
HDML 6-6AE	6	12,000 lbs.	72,000 lbs.	50/20	230/460-480
HDML 8-4AE	4	15,000 lbs.	60,000 lbs.	30/15	208-230/460-480
HDML 8-6AE	6	15,000 lbs.	90,000 lbs.	50/20	230 /460-480
HDML 8-4-WAE	4	15,000 lbs.	60,000 lbs.	30/15	208-230/460-480
HDML 9-4AE	4	16,000 lbs.	64,000 lbs.	30/15	208-230/460-480
HDML 9-6AE	6	16,000 lbs.	96,000 lbs.	50/20	230 /460-480
HDML 9-4-WAE	4	16,000 lbs.	64,000 lbs.	30/15	208-230/460-480

CAUTION Confirm power supply and system wiring **MATCH** before applying power.

NOTE: All systems come standard with 208/230 wiring
(See 460 Volt Conversion Procedures, Page 14).

Figure A: Technical Data/Dimensions of a Standard Carriage



General Specifications

1.2 Additional Technical Data

Lifting Height (Inches)	68
Length (Inches)	41
Width (Inches)	45
Maximum Height (Inches)	92
Lifting Time To Maximum Height (Seconds):	
HDML-6AE	95
HDML-8AE	105
HDML-9AE	115
Control Voltage	110 Volts
Tire Sizes, Accepted (Standard Carriage)	12R - 24.00 to 10.00 - 19.00
Tire Sizes, Airport Equipment (Tug)	14.00 R 24
Tire Sizes, With Reduction Sleeves (On Standard Carriage) (EP-2 or EP-2-HD)	P135 R 13-8.25 x 20
Weight of Each Post (Standard Carriage)	Approximately 975 lbs.
Foundation/Floor Requirements	3000 psi concrete min 6" thick

(Specifications subject to change without notice.)

1.3 Warranty

One year warranty on parts and labor.

Owner/Employer Responsibility

2.1 **Lift Operator Qualifications and Training**

The owner/employer shall ensure that all lift operators have the appropriate qualifications and that they are trained in the safe operation of the lift by making use of the following materials: **ARI-HETRA** supplied Operation and Service Instructions; ALI/SM 05-1, ALI Lifting It Right safety manual; ALI/ST 90 Safety Tips (Page 26) ANSI/ALI ALOIM – 2000, American National Standard for Automotive Lifts – Safety Requirements for Operation, Inspection and Maintenance; ALI/WL series, ALI Uniform Warning Label Decals/ Placards; and if required, ALI/LP-Guide, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts.
Operator training shall be appropriately documented in accordance with ANSI/ALI ALOIM-2000.

2.2 **Display of Information Materials**

The owner/employer shall display the following information materials in a prominent location in the lift area: **ARI-HETRA** Operation and Service Instructions; ALI/SM 05-1, ALI Lifting It Right safety manual; ALI/ST 90 Safety Tips card; ANSI/ALI ALOIM-2000, American National Standard for Automotive Lifts – Safety Requirements for Operation, Inspection and Maintenance; ALI/WL series, ALI Uniform Warning Label Decals/ Placards; and if required, ALI/LP-Guide, Vehicle Lifting Points/Quick Reference Guide for Frame Engaging Lifts and ANSI/SAE J2184-May2000, Vehicle Lift Points for Service Garage Lifting.

2.3 **Periodic Inspection**

The owner/employer shall establish a periodic inspection procedure in accordance with **ARI-HETRA's** recommendations (Page 71 & 73) or ANSI/ALI ALOIM-2000.
The owner/employer shall ensure that all lift inspectors have the appropriate qualifications and that they are trained in the inspection of the lift.
Periodic inspections shall be appropriately documented in accordance with **ARI-HETRA's** recommendations or ANSI/ALI ALOIM-2000.

2.4 **Preventative Maintenance**

The owner/employer shall establish a preventative maintenance procedure in accordance with **ARI-HETRA's** recommendations (Page 71 & 73) or ANSI/ALI ALOIM-2000.
The owner/employer shall ensure that all preventative maintenance personnel have the appropriate qualifications and that they are trained in the preventative maintenance of the lift.
Preventative maintenance shall be appropriately documented in accordance with **ARI-HETRA's** recommendations or ANSI/ALI ALOIM-2000.

2.5 **Repair Maintenance**

The owner/employer shall perform repair and maintenance procedures whenever considered necessary by lift operator, lift inspector or preventative maintenance personnel in accordance with **ARI-HETRA's** recommendations (Page 71 & 73) or ANSI/ALI ALOIM-2000.
The owner/employer shall ensure that all technicians have the appropriate qualifications and that they are trained in the repair and maintenance of the lift.
Repair and maintenance shall be appropriately documented in accordance with **ARI-HETRA's** recommendations or ANSI/ALI ALOIM-2000.
The owner/employer shall provide appropriate Lockout/Tagout means for all energy sources in accordance with ANSI Z 244. 1-2003 (R1993), Safety Requirements for the Lockout/Tagout of Energy Sources (Page 67). This shall be done before any repair work is performed.
ARI-HETRA recommends its quarterly service plan (Page 75).

2.6 **Modifications**

The owner shall not modify or reconstruct any lift. Owner modifications will void lift warranty and release ARI-HETRA of all liability.

Unpacking the ARI-HETRA System

2.7 Two (2) **ARI-HETRA** posts are shipped on one (1) pallet. Each post is marked with a serial number and the power box is in the cardboard box underneath the front carriage.

Figure B: Shipping Pallet

For additional installation safety information see ANSI/ALI ALIS, Safety Requirements for Installation and Service of Automotive Lifts.

2.8 Each post is shipped in an upright position. Care must be used when unpacking to prevent damage. The lift is bolted at the base of the unit to the pallet.

2.9 The following eight (8) steps are recommended to facilitate proper unpacking of the **ARI-HETRA** system:

Step 1: Check all the posts for any transport damage and report it to the freight forwarder.

Step 2: Remove the shipping bracket on top by unscrewing the bolts. (Screw the supplied rings back in place.)

Step 3: Remove the two (2) hydraulic jack/steering assemblies from the pallet.

***Step* 4:** Remove the cardboard box containing the power box.

***Step* 5:** Loosen the two (2) bolts which secure the post to the pallet. Cut the steel banding.

Step 6: Lift the post (weight approximately 1,000 lbs) by the lifting ring with a forklift or hoist from the pallet.

Step 7: Mount hydraulic jack/steering assembly with four (4) bolts to the base of the post.

Step 8: To set up, please read the Operation and Service Instructions and warning labels attached to each post.

2.10 The steering wheel has a hydraulic jack installed for raising the unit. To raise the unit, close the hydraulic valve by turning it clockwise. Operate the hydraulic jack handle and the post will raise. Raise the post just enough to clear the floor.

⚠ CAUTION	If post is raised too high, the steering tube will come out of the hydraulic jack holder.

⚠ WARNING	To lift the post, use the lifting ring located at the top of the post. **DO NOT** lift the post by any other point, thereby avoiding serious damage to the post.

HDML Operation - Moving Posts

3.1 To enhance mobility, each **ARI-HETRA** post has self-contained wheels and a hydraulic jack/steering assembly.

3.2 Before attempting to move post be sure:

- Power has been disconnected;
- All cables are disconnected;
- Post forks are in the "down" position and **NOT** under load.

3.3 To raise post, close the valve on the hydraulic jack on the steering assembly. Operate the hydraulic jack handle in a pumping action and the unit will raise to allow movement. Once positioned under vehicle's tires the hydraulic jack valve must be opened, which allows the lift to be completely lowered thereby avoiding damage to the jack system during lift use.

⚠ CAUTION	Raise unit just enough to clear the floor. If post is raised too high, the steering tube will come out of its holder.

Figure C: Hydraulic Jack Operation

HDML POST Electrical Hook-Up and Test

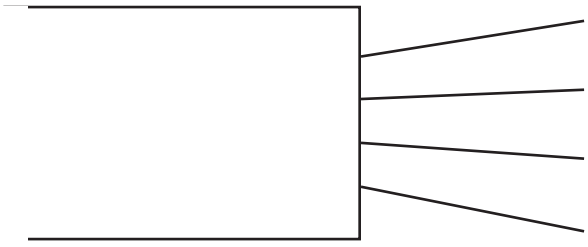
4.1 **ARI-HETRA** power box, power requirement and set up are:

208/230 (200 - 250) Volts - 3 Phase - 60 Hertz - 30 Amps. If six posts are used, 50 Amps are required.

460/480 (440 - 500) Volts - 3 Phase - 60 Hertz - 15 Amps. If six posts are used, 20 Amps are required. If eight posts are used, 30 Amps are required.

4.2 The **ARI-HETRA** power box is supplied with 50' of cable. Note: Power box may be located on any one (1) post. It is recommended that a disconnect plug be installed on the end of the cable, allowing it to be plugged into receptacles located throughout shop. Connect the external power as shown below.

Connect External Power



⚠ WARNING The system must be grounded at all times. Use of non-grounded outlet is a safety hazard.

4.3 The **ARI-HETRA** power box contains a phase polarity detector. This sensor monitors incoming power for phase sequence, missing phase and low voltage. The detector will select the proper phase sequence to allow the **ARI-HETRA** system to operate in the proper direction regardless of incoming phase sequence.

4.4 Electrically Interconnecting **ARI-HETRA** Posts: Remove connector (dummy plug) from the power box located on the post closest to the power source. Connect female connector from power box to the male connector (right) on the first post. Connect second, third and fourth posts together with interconnect cables. On the last post, connect the dummy plug that was removed from the power box. All **ARI-HETRA** posts are now electrically interconnected.

4.5 Conversion Instructions 208-230 Volts to 460 Volts: If your system is not set up for the correct voltage, below are instructions on how to make the changes. Otherwise, please go to the next section of this manual.

Call your Regional Manager or **ARI-HETRA** for the voltage conversion plugs if needed.

⚠ WARNING This conversion must be performed on each post.

Printed Circuit Board

(a) The printed circuit board can be accessed by removing the three (3) 10mm nuts from the black disc on the bottom of the aluminum control housing (Item 73, Page 59).

(b) Slowly lower the disc to remove the printed circuit board. Unplug the orange connector on the right and release the board until the orange, eleven-pin voltage conversion plug is visible on the upper left side of the board.

(c) Remove the eleven-pin voltage conversion plug. The new plug has only six (6) pins. It must be installed in the top of the connector. Make sure that the numbers on the plug match those printed on the board (See Figure D, Page 15).

(d) Make sure all other connectors on the board are still plugged in. The motor connectors on the backside of the board must not be interchanged. If unplugged, make sure that the numbers on the board match those on the plugs.

(e) Slide board back into the housing. If slid all the way out, board must be in the large slots. Make sure not to pinch the wires between the housing and the disc.

(f) Reinstall wire ties on all connectors removed from printed circuit board.

Power Box Only

(a) Open power box by unscrewing the four (4) screws.

(b) On the top of the box is a printed circuit board. On the left of this board are two (2) fuses and a terminal strip. The red wire must be relocated on the terminal strip from #1 (208/220 position) to #3 (408/480 position). To release the wire, insert a small screwdriver in the slot above the wire (See Figure E, Page 15).

(c) The two (2) fuses on the left side of the board named “input pilot fuse” must be changed from 6.3 Amps to 4 Amps.

Figure D: VoItage Conversion Plug

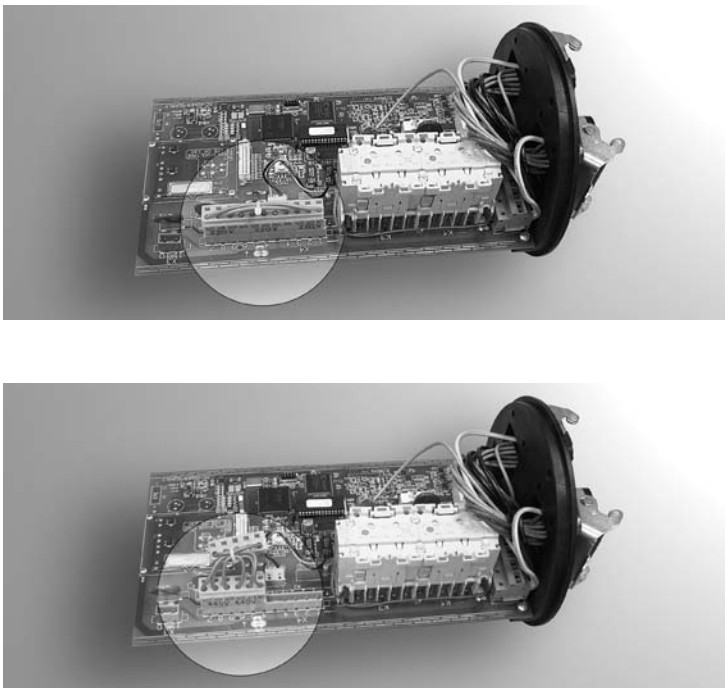
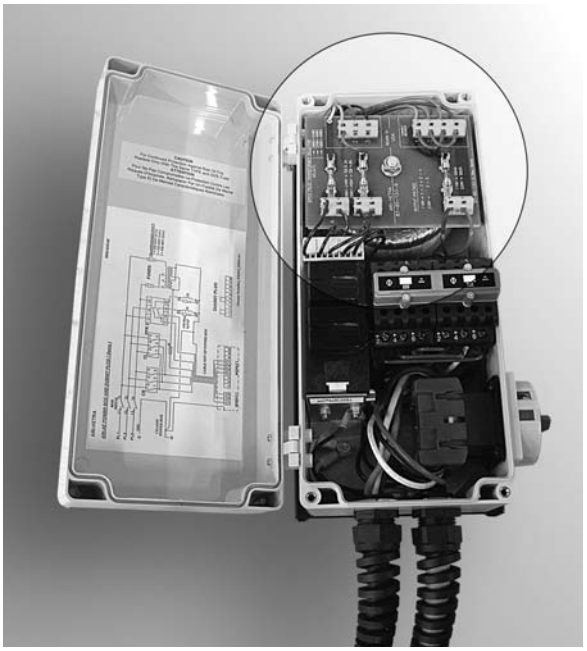


Figure E: Input Pilot Transformer Selector



HDML POST Operation/Orientation

5.1 The **ARI-HETRA** system will provide reliable, efficient service and increase plant productivity. It is essential that all operators of the **ARI-HETRA** system be properly trained. Once all lift posts have been tested and are working satisfactorily, you now can proceed with lifting a vehicle.

5.2 There are several **Warnings** and/or **Safety Precautions** that must be exercised at all times:

(a) The **ARI-HETRA** system should be used on a solid 3000 psi concrete floor minimum 6" thick. The floor where the vehicle is to be lifted should be reasonably flat and capable of supporting the vehicle and the lift.

(b) Raise each lift post with its hydraulic jack so the post can be moved under the tires of the vehicle. Position the power box post first (post with electrical power cable) to allow the shortest most convenient distance to the power source (see Figure F, Page 18).

(c) Push the lift post forks completely under tire with carriage square to the wheel of vehicle (see Figure F, Page 18).

(d) Lower lift to the floor by releasing the hydraulic jack valve. Make sure lifting posts are resting completely on the floor before lifting the vehicle. This maximizes stability of the lift system and precludes damage to the hydraulic jack.

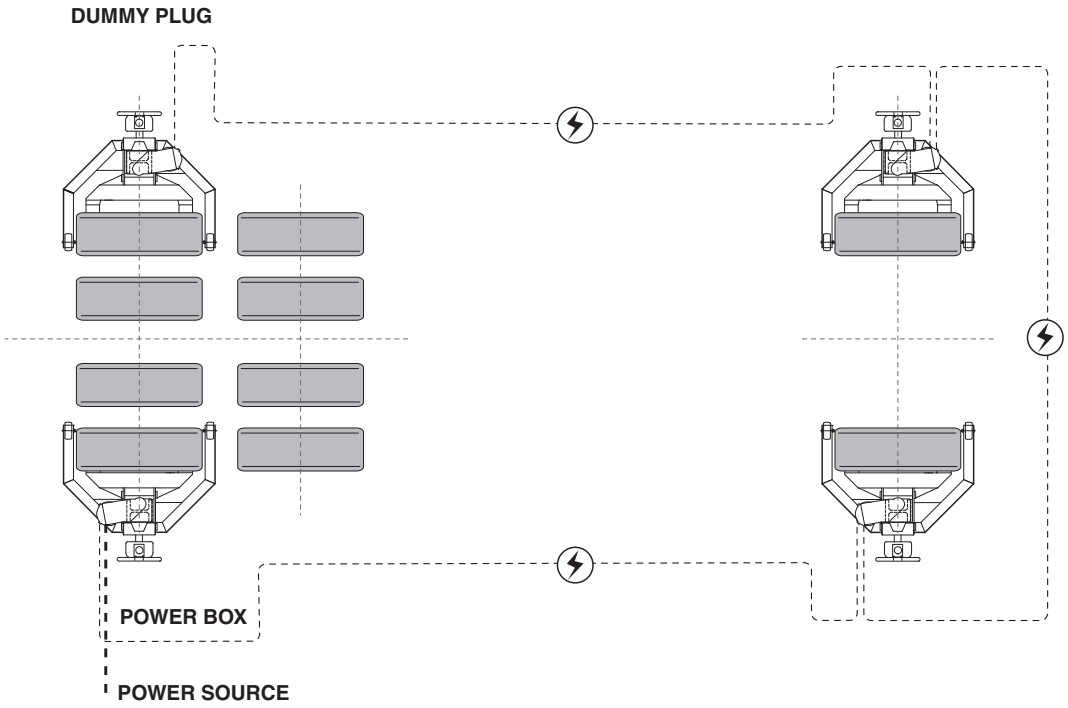
(e) Position all other posts under the remaining wheels. Push the lift column forks completely under the tire with carriage square to the wheel of vehicle.

(f) Lift by the rear wheels of a tandem axle vehicle (see Figure F, Page 18). The lifting capacity per axle is 24,000 pounds for the HDML-6AE, 30,000 pounds for the HDML-8AE and 32,000 pounds for the HDML-9AE.

If the rear axle load is higher than the rated capacity of the **ARI-HETRA** lift, two (2) additional lift posts should be used on the other axle (Section 7.7 Page 27). This will provide 48,000 pounds lifting capacity at the tandem axle area for the HDML-6AE, 60,000 pounds for the HDML-8AE and 64,000 pounds for the HDML-9AE.

⚠ WARNING Do not exceed rated capacity of each lift post, as indicated on the identification label.

Figure F: Post & Cable Distribution



5.3

After all lift posts are in position, connect cables between all lifting posts. Install the dummy plug in the last post.

Plug in electrical power cable and turn external power on. Turn power switch (2) on power box to the “on" position (see No. 2, Figure I, Page 22).

On each post select the 'MULTI' post mode of operation by pressing the 'MULTI' button on the keypad. The LED above the 'MULTI' button will light. If any of the posts are in 'SINGLE' mode the 'SINGLE' and 'MULTI' LEDs will blink, alternating. If neither of the LEDs are blinking or lighted, check to see that the dummy plug is properly in place or that a red Emergency Stop button has been pushed. Pull or twist to release the red Emergency Stop button.

5.4 The **ARI-HETRA** system is now ready to lift a vehicle.

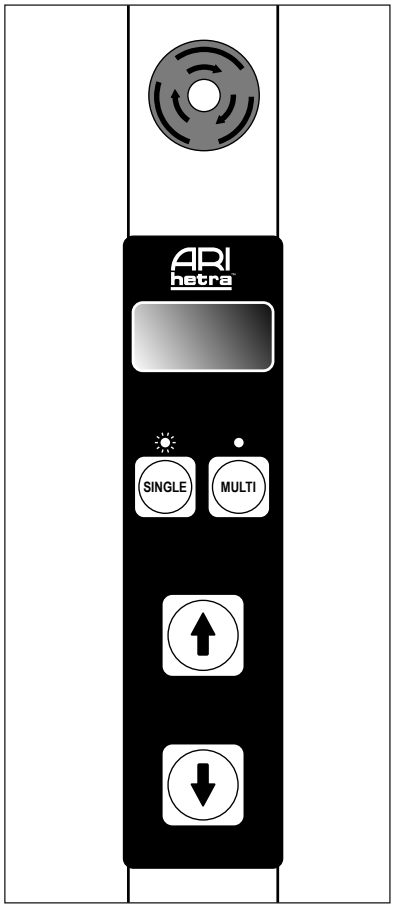


Figure G: Control Panel

HDML POST Operation/Orientation

⚠ WARNING

Before raising the vehicle:

- Observe complete area when lifting or lowering vehicle. Use a second person to observe the area which the operator cannot see.
- Do not lift vehicle in an inclined position, side to side or end to end.
- Do not stand or move under the lift when operating.
- Release brakes of vehicle and put in neutral before operating lift.
- In case of trouble, release the "up/down" push button immediately.
- Do not operate the lift if any safety device is inoperative.
- Do not override or put any safety device out of operation.
- Do not use the unit for any other purpose than its intended use. The unit is not designed to be used as a bumper lift.
- Do not lift vehicles weighing more than the rated capacity of the lift.
- Operation of unit can be stopped at any time by releasing the push button switch or pushing the Emergency Stop Button.
- Before lowering vehicle, be sure all obstructions are removed from the vicinity of the vehicle.
- Do not allow any person to operate the control of the lift when people are underneath the raised vehicle.
- When performing maintenance work on the unit, always remove vehicle from the unit and be sure power is disconnected from the unit, unless required for checking unit.
- There are warning and operation decals on the unit. Be sure you read and understand if you operate or maintain the lift. Do not remove decals from the unit.
- Keep warning/operating plates clean so they can be read easily by all operating and maintenance personnel. Contact **ARI-HETRA** for free replacements if required.
- Perform scheduled maintenance inspections as required. (Quarterly as a minimum).
- When replacing parts on the unit use only **ARI-HETRA** parts.
- Order replacement parts from the sales agency from whom the unit was originally purchased, or from **ARI-HETRA.**

5.5 Raising the vehicle:

(a) Push the "up" button on the keypad (see No. 4, Figure I, Page 22). All lifting posts will start to lift vehicle. When lift begins to pick-up load, stop operation and check that all forks are fully engaged under tires and each lifting post is clear of vehicle.

⚠ CAUTION	As the vehicle raises, observe that each lifting post is clear of vehicle and will not rub against side of vehicle as it raises.

(b) Continue raising vehicle, stopping and checking both sides of vehicle during the raising cycle. The lifting and lowering of vehicle can be done at any lifting post using the “up” or “down” button.

⚠ CAUTION

During the raising and lowering of vehicle, observe that the vehicle is staying level. If vehicle is not level, release the switch. To level the vehicle, press the 'SINGLE' button to put the post into 'SINGLE' post mode of operation (see No. 6 Figure I, Page 22). The post is in 'SINGLE' mode and can now be raised or lowered to level the vehicle. Repeat at other posts if necessary. Operate the lifting post which will level the vehicl Once the vehicle is level, return all posts to the 'MULTI' post mode of operation by pressing the 'MULTI' button.

(c) Once vehicle is raised, turn power box switch to “off’ position or push-in the Emergency Stop button on any post. This will prevent operation of the lift while someone is under the vehicle.

⚠ CAUTION	Do not operate lift when individuals are under vehicle.

HDML POST Operational Precautions

6.1 Various warning labels and operating instructions are applied to each post (see Figures I - N, Pages 22 - 26). Labels are normally applied at the factory, howerver if necessary, replacement labels are available from **ARI-HETRA** corporate office.

6.2 Each post has an "Identification Plate" containing the manufacturer's item description data (see Figure H, Below).

Figure H: Manufacturer's Identification Plate

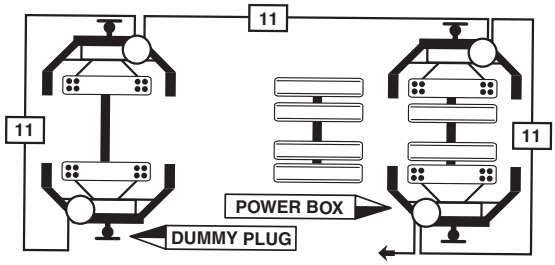
ARI
hetra™
AUTOMOTIVE RESOURCES, INC.
7251 Coppermine Dr.
Manassas, VA 20109
(703) 359-6265 FAX: (703) 359-6405
MADE IN THE U.S.A.
MODEL HDML-8
SERIAL
CAP (lbs.) 15,000
HP 2
VOLTS 208 230 440
PHASE 3
HERTZ 60
AMPS 6 3
FOUNDED 1945
AUTOMOTIVE LIFT INSTITUTE
MEMBER
This product was manufactured by a member of the Automotive Lift Institute, Inc., the North American trade association of lift manufacturers dedicated to promoting responsible design, construction, installation, use, and maintenance of automotive vehicle service lifts.
AUTOMOTIVE LIFT INSTITUTE, INC.

Figure I: Warning Operation Instruction Label

ARI hetra™
7251 Coppermine Drive
Manassas, VA 20109
(703)359-6265
(703)359-6405 FAX

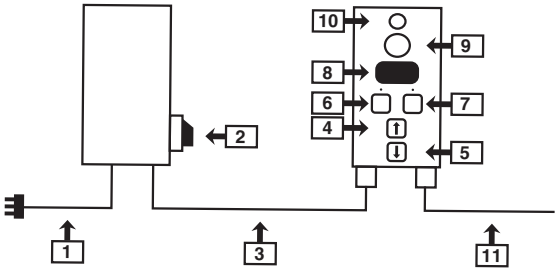
— WARNING —
Before operating this lift:

- Read owner's manual for complete Operation and Service Instructions.
- Do not exceed rated capacity of lift.
- Make sure floor is strong enough to support load of lift.
- Install forks completely under tires.
- Open hydraulic valve before operating.
- Release brakes of vehicle and put in neutral before operating lift.
- Do not stand or move under lift when operating.
- Use a second person to observe complete area when lifting or lowering.
- In case of trouble, push red Emergency Stop button immediately.
- Do not operate this lift if any safety device is inoperative.
- Do not override or put any safety device out of operation.
- Do not attempt repairing until first turning power off.
- Replace cables when damaged.
- Do not use lift for anything other than its intended use.
- Lower forks and disconnect all cables before moving lift.



Cable Hook-Up

- Any post may be used for the power box.
- A dummy plug must be used on the last post.
- Always check for proper power source.
- Always lift by rearmost wheels.



(1) Cable to power source
(2) Main power switch on-off
(3) Cable to first post
(4) Up button
(5) Down button
(6) SiINGLE button
(7) MULTI button
(8) Digital display readout
(9) Emergency Stop button
(10) Manual lowering access
(11) Cable to next post

System Troubleshooting

Check power supply by installing a dummy plug to power box.
Recheck cable hook-up.
Make sure a dummy plug is installed in the last post.
Emergency Stop buttons must be disengaged on all posts.
Carriage movement sensor may respond. Switch-off main power for 5 seconds, then switch on again to reset.
Safety wedge may be engaged, proceed as before and lift up unit by 3 inches before lowering again.
If all attempts fail, check manual or call service agent.

086-01AE

Figure J: Caution Label

CAUTION
Lift to be used by trained operator only.
©
CAUTION
Authorized personnel only in lift area.
©
CAUTION
When moving lift, be careful to avoid tipping.
©
CAUTION
Check for overhead obstructions before raising vehicle.
©
The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.
Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 85 Cortland, NY 13045.
Replacement label sets may be obtained from the original lift manufacturer and ALI's member companies. They are protected by copyright.
www.autolift.org
©1992 by ALI, Inc.
ALI/WL400c

Figure K: Safety Instruction Label

SAFETY INSTRUCTIONS
Read operating and safety manuals before using lift. ©
SAFETY INSTRUCTIONS
Proper maintenance and inspection is necessary for safe operation. ©
SAFETY INSTRUCTIONS
Do not operate a damaged lift. ©
The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.
Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 85 Cortland, NY 13045.
Replacement label sets may be obtained from the original lift manufacturer and ALI's member companies. They are protected by copyright.
www.autolift.org
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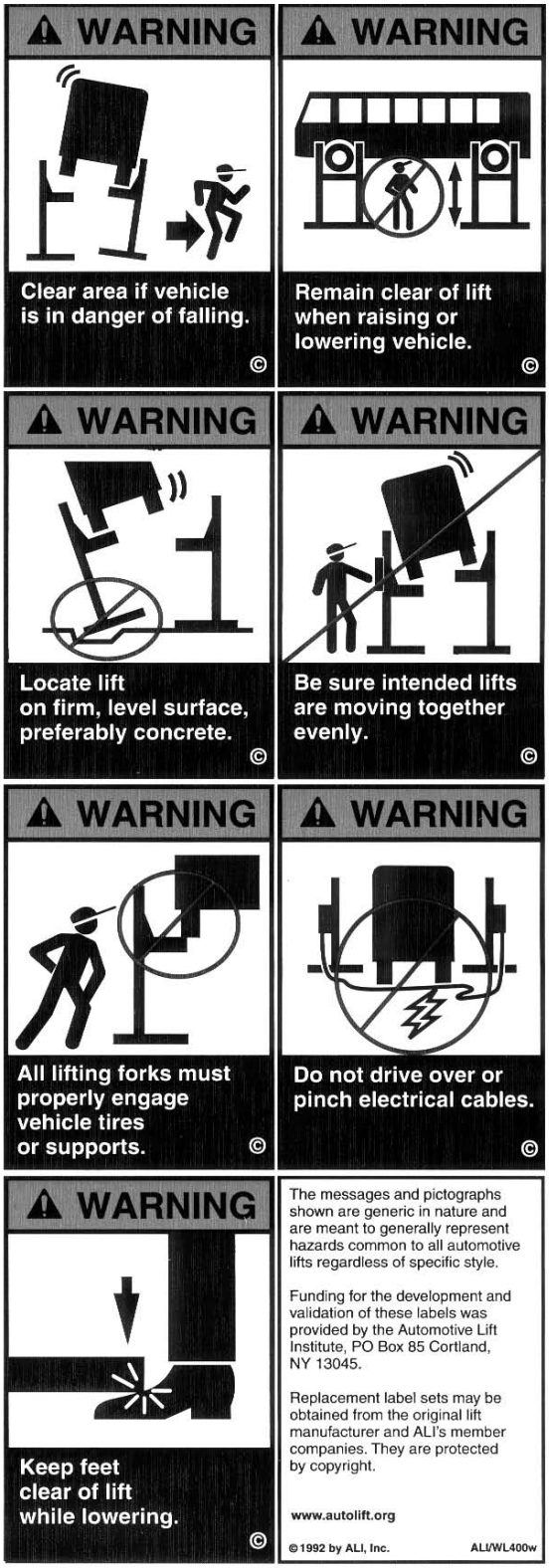
ALI/WL400s

Figure L: Warning Label


WARNING
Clear area if vehicle is in danger of falling.
WARNING
Remain clear of lift when raising or lowering vehicle.
WARNING
Locate lift on firm, level surface, preferably concrete.
WARNING
Be sure intended lifts are moving together evenly.
WARNING
All lifting forks must properly engage vehicle tires or supports.
WARNING
Do not drive over or pinch electrical cables.
WARNING
Keep feet clear of lift while lowering.
The messages and pictographs shown are generic in nature and are meant to generally represent hazards common to all automotive lifts regardless of specific style.
Funding for the development and validation of these labels was provided by the Automotive Lift Institute, PO Box 85 Cortland, NY 13045.
Replacement label sets may be obtained from the original lift manufacturer and ALI's member companies. They are protected by copyright.
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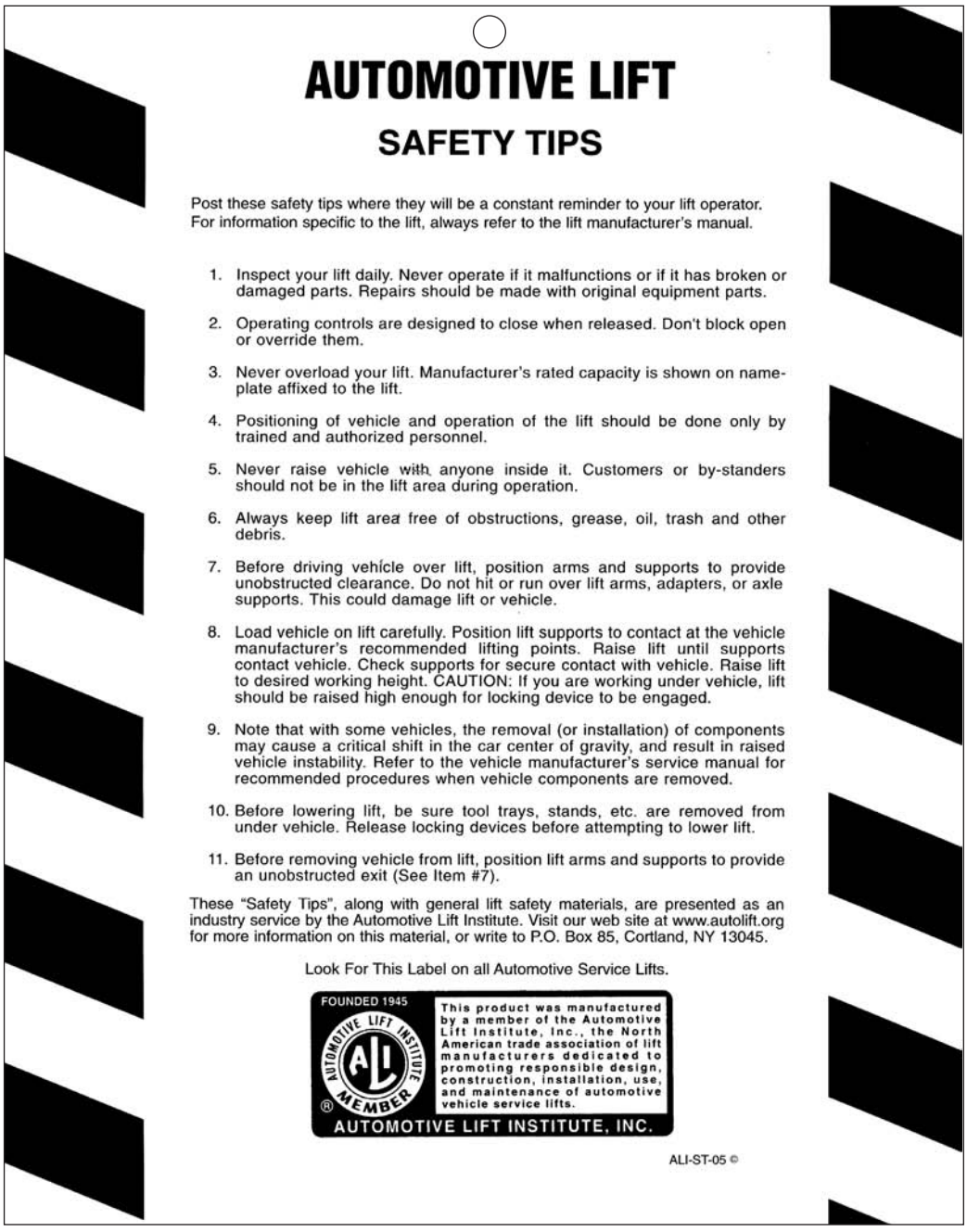
ALI/WL400w

Figure M: Safety Tips



AUTOMOTIVE LIFT

SAFETY TIPS

Post these safety tips where they will be a constant reminder to your lift operator. For information specific to the lift, always refer to the lift manufacturer's manual.

1. Inspect your lift daily. Never operate if it malfunctions or if it has broken or damaged parts. Repairs should be made with original equipment parts.
2. Operating controls are designed to close when released. Don't block open or override them.
3. Never overload your lift. Manufacturer's rated capacity is shown on name-plate affixed to the lift.
4. Positioning of vehicle and operation of the lift should be done only by trained and authorized personnel.
5. Never raise vehicle with anyone inside it. Customers or by-standers should not be in the lift area during operation.
6. Always keep lift area free of obstructions, grease, oil, trash and other debris.
7. Before driving vehicle over lift, position arms and supports to provide unobstructed clearance. Do not hit or run over lift arms, adapters, or axle supports. This could damage lift or vehicle.
8. Load vehicle on lift carefully. Position lift supports to contact at the vehicle manufacturer's recommended lifting points. Raise lift until supports contact vehicle. Check supports for secure contact with vehicle. Raise lift to desired working height. CAUTION: If you are working under vehicle, lift should be raised high enough for locking device to be engaged.
9. Note that with some vehicles, the removal (or installation) of components may cause a critical shift in the car center of gravity, and result in raised vehicle instability. Refer to the vehicle manufacturer's service manual for recommended procedures when vehicle components are removed.
10. Before lowering lift, be sure tool trays, stands, etc. are removed from under vehicle. Release locking devices before attempting to lower lift.
11. Before removing vehicle from lift, position lift arms and supports to provide an unobstructed exit (See Item #7).

These "Safety Tips", along with general lift safety materials, are presented as an industry service by the Automotive Lift Institute. Visit our web site at www.autolift.org for more information on this material, or write to P.O. Box 85, Cortland, NY 13045.

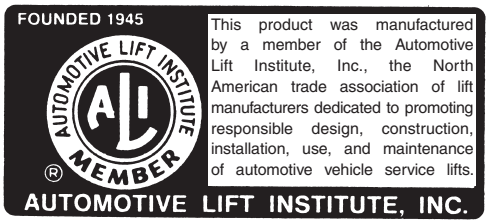
Look For This Label on all Automotive Service Lifts.

FOUNDED 1945 — AUTOMOTIVE LIFT INSTITUTE MEMBER — This product was manufactured by a member of the Automotive Lift Institute, Inc., the North American trade association of lift manufacturers dedicated to promoting responsible design, construction, installation, use, and maintenance of automotive vehicle service lifts.

AUTOMOTIVE LIFT INSTITUTE, INC.

ALI-ST-05 ©

Figure N: Automotive Lift Institute Label


FOUNDED 1945
AUTOMOTIVE LIFT INSTITUTE
MEMBER
This product was manufactured by a member of the Automotive Lift Institute, Inc., the North American trade association of lift manufacturers dedicated to promoting responsible design, construction, installation, use, and maintenance of automotive vehicle service lifts.
AUTOMOTIVE LIFT INSTITUTE, INC.

HDML Post Start Up

7.1 On each post control box is an Emergency Stop button (No. 9, Figure I, Page 22). To release button, twist. Make sure these buttons are released at each post.

7.2 On each lift post there is a button on the keypad, which allows selection of multiple 'MULTI' lift post operation or 'SINGLE' lift post operation. Select the multiple position 'MULTI' on each post (No.7, Figure I, Page 22).

7.3 Turn power switch (No.2, Figure I, Page 22) to the “on” position. Make sure external power is present. When power is on, the LEDs and Digital Display Readout will be illuminated. Test every post to ensure it responds to the “up” and “down” buttons (No.4 & No.5, Figure I, Page 22).

7.4 With all lifting carriages completely lowered, select position 'MULTI' with the selector button (No.7, Figure I, Page 22). LEDs above the 'MULTI' will remain on and will not blink. Check lights at each post. Push the "up" button (No.4, Figure I, Page 22) on one of the posts. The carriages of all the lifts will rise together.

7.5 Let carriages rise until all have reached their upper limit. Then lower by using the "down" button (No.5, Figure I, Page 22). Make sure all carriages are completely lowered before turning off the electrical power.

7.6 Disconnect cables before relocating for use in another location and/or storage.

⚠ CAUTION

(a) Always disconnect the power cable from the outlet before moving the post.

(b) Always disconnect connection cables at the left (male) connector keeping the right (female) connector end plugged into each post.

(c) **Never lay plugs on the ground as they can become damaged**. For storage, wrap the cable around the hook on the motor gearbox.

(d) Never move the lift posts with the cables connected or with the cables laying on the ground.

(e) Never drive over the connection cables.

(f) Never operate a welder or cutting torch in the vicinity of the connection cables.

7.7 To operate as a six-post system - add two (2) posts and two (2) cables as shown. (see Figure O, Page 28)

Figure O: Four Post System

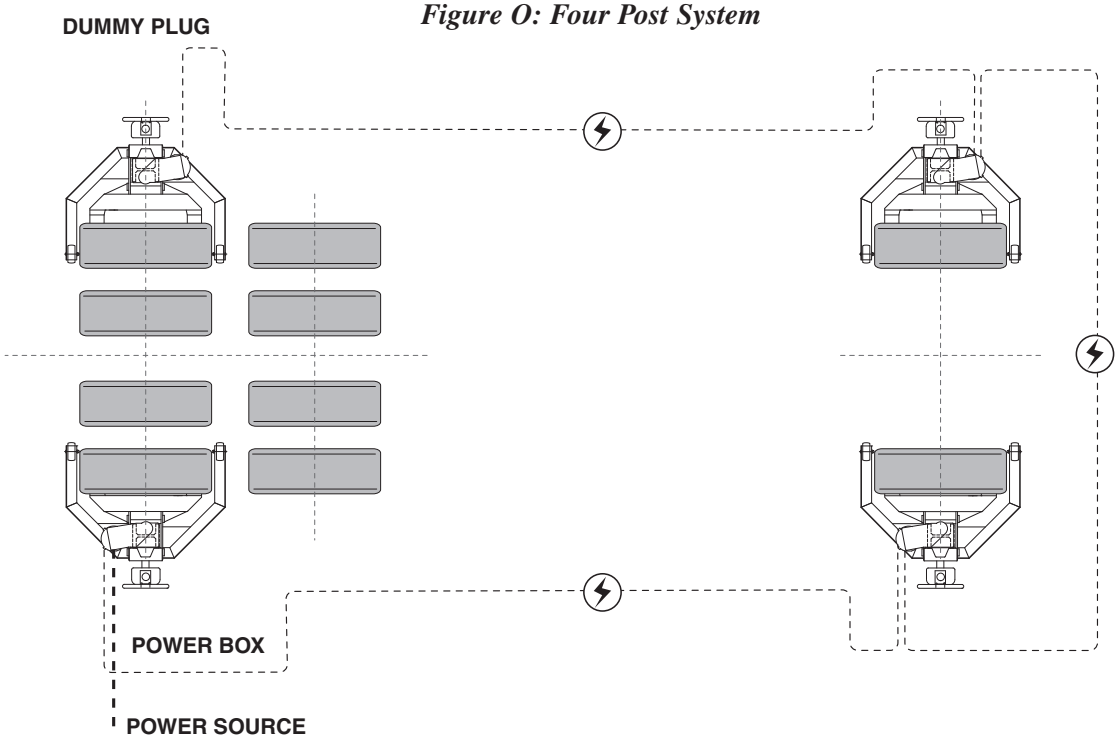
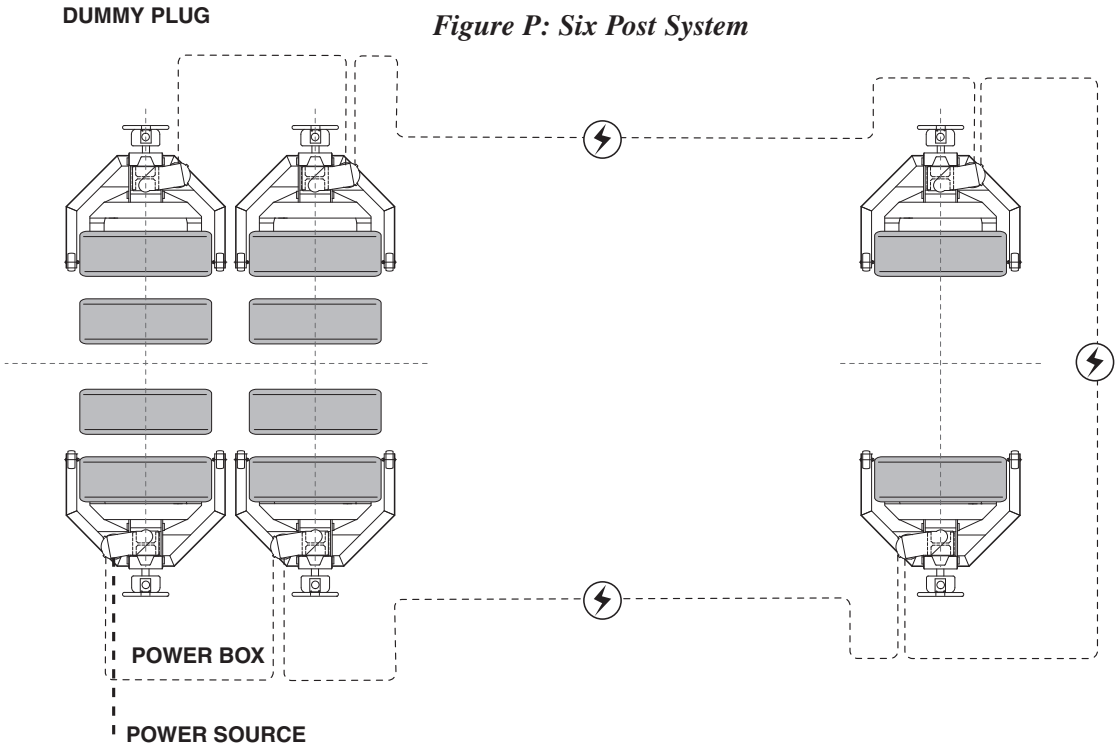


Figure P: Six Post System



Optional Equipment

8.1 Support Stands - **ARI-HETRA** system stands are available with rated capacity of 15,000 pounds each. A description and how to use the stands is in Section 9 herein. Stands are available as follows:

AB-6-07	Short Support Stand, capacity: 15,000 pounds, weight: 35 pounds, adjustable from 17.5"-28.5" at 1.25" steps
AB-6-l2	Medium Support Stand, capacity: 15,000 pounds, weight: 53 pounds, adjustable from 29.5"-47.2" at 2.00" steps (See Figure Q, Below)
AB-6-20	Tall Support Stand, capacity: 15,000 pounds, weight: 145 pounds, adjustable from 47.2"-78.8" at 2.95" steps
SP-75	Screw-Fine Adjustment for AB-6-20 support stands only, adjustable from 2"-4", weight: 15 pounds

8.2 Reduction Sleeves for lifting small tired vehicles (down to a 9” rim) are available, which fit onto the forks of the carriage. These sleeves make the fork's opening more narrow allowing small tired vehicles to be lifted. The reduction sleeve(s) may be used individually or in pairs (See Figure R, Below).

Model EP-2 – Down to 13” rim (5,000 lb. capacity)
Model EP-2-HD – Heavy-Duty down to 13” rim (15,000 lb. capacity)
Model EP-2-9 – Down to 9” rim (5,000 lb. capacity)

⚠ WARNING Do not attempt to lift small tired vehicles without using the reduction sleeves. Smaller tires could slip through the forks of the lift.

Figure Q: Stands

Figure R: Reduction Sleeves

Section 8

Support Stands

9.1 For each **ARI-HETRA** system, one (1) or more sets of stands may be needed. The actual number of sets required varies with plant's productivity objectives, plant layout and manpower resources.

9.2 A set of stands consists of four (4) units; each stand has a rated capacity complimentary to the **ARI-HETRA** system. In use, i.e. HDML-6AE provides 12,000 pounds of lift at each post. Stands have a rated capacity of 15,000 pounds each. A set of stands is placed in position when a vehicle is raised by the **ARI-HETRA** system. When the stands are in position, the **ARI-HETRA** system is free for use on another vehicle.

⚠ WARNING Do not exceed rated capacity of each stand (15,000 pounds).

9.3 Positioning Stands: To determine the proper support points on the vehicle, refer to the manufacturer's manual for that particular vehicle.

⚠ WARNING Do not use support points which, under vehicle weight, might break or collapse.

Move a set of stands into position and raise each stand as high as possible to the nearest pin hole. Insert pin.

⚠ WARNING Make sure pins are fully inserted through both holes before lowering vehicle on stand.

A channel steel section is provided at the top of each stand. The lifting point of the vehicle should lay flat on this channel and all three (3) legs of the stand should be in contact with the floor surface.

⚠ WARNING The support point on the vehicle must be flat. Do not use on sloping or irregular surface, which may topple the stand(s) when vehicle is lowered onto stand(s).

9.4 Lower vehicle onto stands: With all stands in position, lower vehicle onto stands one (1) lift at a time by selecting 'SINGLE' post mode on the touch keypad. LED lights will blink. Operate each one of the posts independently, to make contact with individual stand at the support point. To remove the lifting posts, select 'MULTI' post mode on the keypad and lower the carriages completely down before moving lift post.

⚠ CAUTION Do not move lift post with carriage raised. A lift post with a raised carriage is top-heavy and could tip over.

With carriages lowered, disconnect cables, leave cable plugged into control box and wrap cable around control box. Operate hydraulic pump handle to raise lift post unit. Lift post is now ready to move.

Support Stands

9.5 Removing the stands from under the vehicle:

- To remove stands from vehicle, move posts into position and connect cables.
- Turn the power box switch to "on" position and press the 'SINGLE' button to select 'SINGLE' mode on operator control. The LED lights will be blinking.
- Operate each post independently, raising the carriage until the fork just touches the tire.
- Make sure the forks are fully engaged with the tires and the carriage is square with the wheel. Release the hydraulic valve on the hydraulic jack/steering assembly.
- Proceed in same manner with the remaining lift posts.
- With all the lift posts in position and the forks fully engaged with tires, put all posts in the 'MULTI' post mode of operation by pressing the 'MULTI' button on the keypad.
- Raise vehicle observing that all lift post forks are fully engaged with tires. Raise vehicle until stands are free and can be removed.

⚠ WARNING Before going under vehicle, turn power switch to the "off" position or push one of the Emergency Stop buttons. This will prevent the unit from being operated.

- With stands removed, lower vehicle, observing that lift posts are clear of vehicle and do not rub side of vehicle during lowering.

⚠ WARNING Do not use lift for other than its intended use. The **ARI-HETRA** system is not designed to be used as a bumper or frame contact lift.

9.6 See Section 8.1 for description of available stands and their model numbers.

Forklift Adapters-Models FL-3 and FL-3-4

10.1 Inspect **ARI-HETRA** FL-3 adapter kit immediately upon delivery. A list of the components and a drawing of their set-up is included in the "Component Identification" section of this manual. If shipping damage is evident, inform the delivering carrier immediately and contact **ARI-HETRA** customer service.

Introduction

10.2 The **ARI-HETRA** FL-3 forklift adapter must be used with two (2) lifting posts of the **ARI-HETRA** Mobile Lifting System. This specific section will address the utilization and safety considerations of the combined use of the forklift adapters and the two (2) lifting posts. The set-up and use of the mobile lifting posts is addressed in sections 2 through 6 of the manual. The service technicians must thoroughly familiarize themselves with the safe and efficient use of the **ARI-HETRA** lifting posts as outlined in the Operation and Service Instruction manual provided with the lifting posts.

The combined above referenced units comprise the **ARI-HETRA** Forklift System. The system is designed to raise forklifts up to 68" in the air so that service technicians can perform, in a standing position, the necessary under vehicle maintenance functions. This two-post system is designed to lift forklifts that have a wheelbase no greater than 76". Forklifts that exceed the above specifications should be lifted with a four-post, wheel engaging, **ARI-HETRA** Mobile Lifting System.

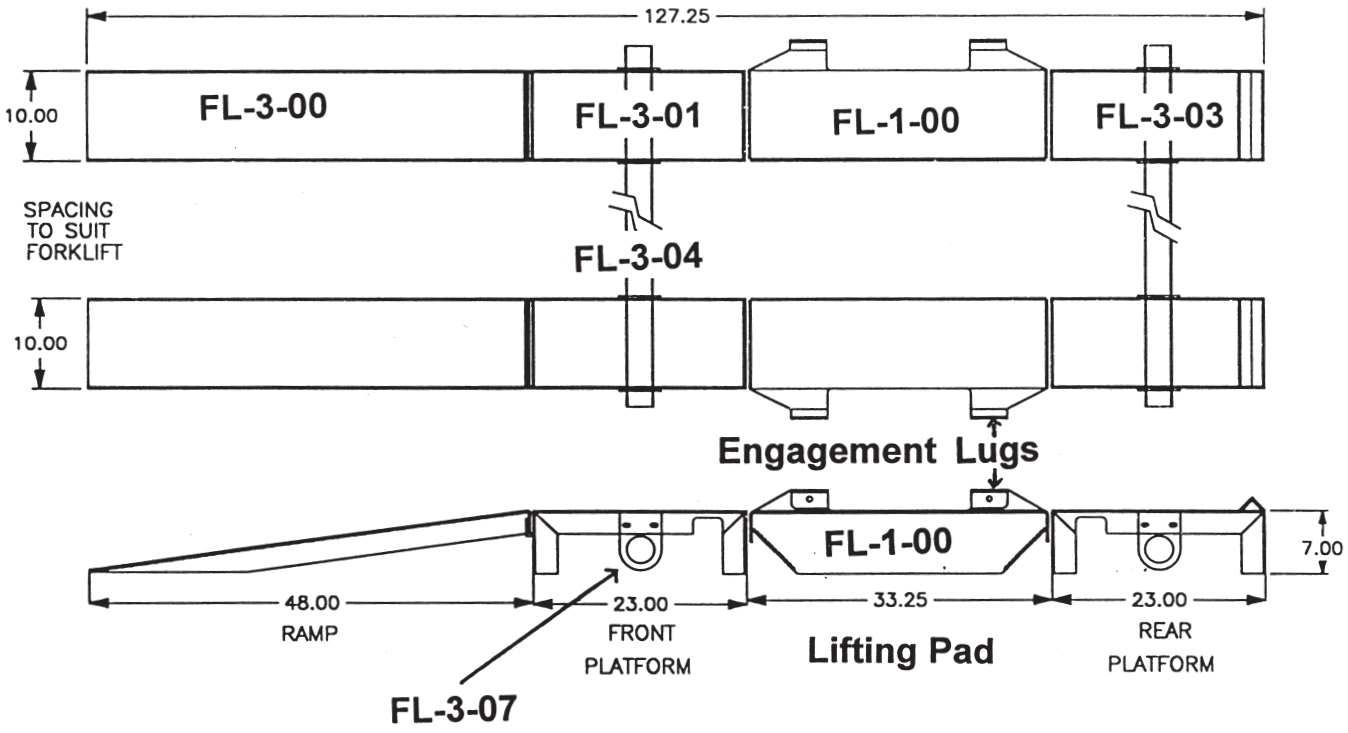
The FL-3 forklift adapter system lifts a forklift via lifting pads that are placed under the flat undersides of the forklift. Full access is provided to the drive and transmission components beneath the forklift. Full access is also provided to the wheels, brakes and steering components.

FL-3 Component Identification

10.3

FL-1-00	DRIVE-OVER PAD FOR LIFTING POST
FL-3-00	DRIVE-ON RAMP
FL-3-01	FRONT PLATFORM RAMP
FL-3-03	REAR PLATFORM RAMP
FL-3-04	STABILIZER TUBE
FL-3-07	STABILIZER BRACKET

Figure S: FL-3 Components

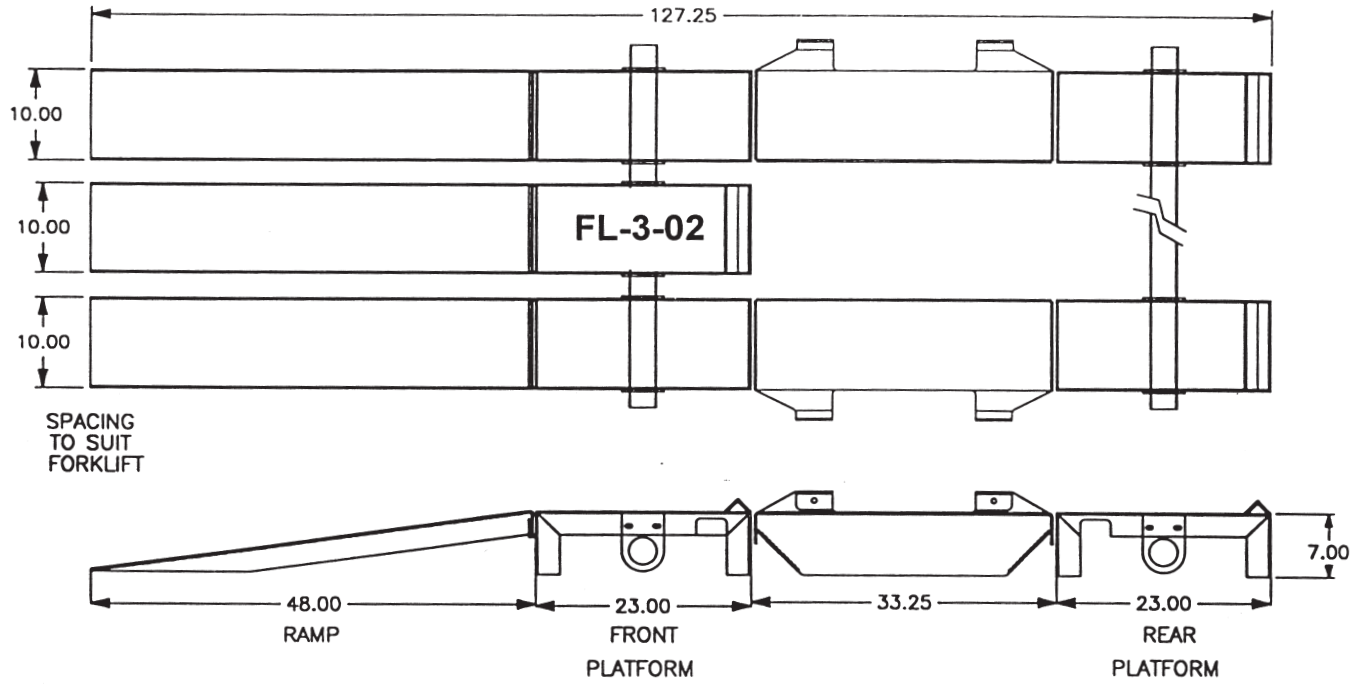


FL-3-4 Component Identification

10.4

FL-1-00	DRIVE-OVER PAD FOR LIFTING POST
FL-3-00	DRIVE-ON RAMP
FL-3-01	FRONT PLATFORM RAMP
FL-3-02	CENTER PLATFORM FOR 3 WHEEL FORKLIFT
FL-3-03	REAR PLATFORM RAMP
FL-3-04	STABILIZER TUBE
FL-3-07	STABILIZER BRACKET

Figure T: FL-3-4 Components



FL Specifications

10.5

	FL-3	FL-3-4
WEIGHT:	550 lbs	630 lbs
RAMP HEIGHT:	7”	7”
RAMP WIDTH:	10”	10”
LEVEL RAMP LENGTH:	79”	79”
INCLINED RAMP LENGTH:	48”	48”

Section 10

Forklift Safety

10.6

⚠ WARNING

Study, understand and follow all instructions:

- Provided in this complete manual;
- Listed below;
- On system safety labels.

Failure to heed this warning may result in personal injury and/or property damage.

The **ARI-HETRA** Forklift System is designed to safely and efficiently raise forklifts in the air so that service technicians can provide maintenance on all the components under the forklift.

10.7

⚠ WARNING

TO SAFELY LIFT A FORKLIFT WITH THE ARI-HETRA FORKLIFT SYSTEM THE SERVICE TECHNICIAN SHOULD:

(A) NEVER LIFT A FORKLIFT THAT HAS A WHEELBASE GREATER THAN 76".

(B) NEVER LIFT A FORKLIFT BY THE COUNTERWEIGHT.

(C) NEVER USE THREE (3) LIFTING POSTS TO LIFT A FORKLIFT THAT HAS FOUR (4) WHEELS.

(D) NEVER "ROCK" A FORKLIFT ONCE IT IS HIGHER THAN 6" IN THE AIR.

(E) NEVER LIFT A FORKLIFT IF BOTH SIDE FL-3 LIFTING PADS ARE NOT AT LEAST 4" UNDER THE UNIT.

(F) NEVER LIFT A FORKLIFT WHOSE UNDERSIDE ISN'T COMPLETELY FLAT WHERE THE FL-3 LIFTING PADS MAKE CONTACT TO LIFT THE FORKLIFT.

(G) NEVER USE FORKLIFT SYSTEM WITH THE CONTROL SET TO 'SINGLE' POST MODE OF OPERATION.

(H) NEVER LOWER THE LIFT USING THE EMERGENCY MANUAL LOWERING MECHANISM.

(I) NEVER USE THE RAMP SYSTEM WITHOUT THE TWO (2) STABILIZER TUBES.

(J) NEVER LIFT A FORKLIFT IF THE COUNTERWEIGHT, MAST OR BATTERIES HAVE BEEN REMOVED. (CENTER OF GRAVITY WOULD BE SEVERELY AFFECTED).

(K) ALWAYS SET-UP THE SYSTEM ON A FLAT, LEVEL CONCRETE FLOOR.

(L) ALWAYS BE SURE THERE ARE NO OVERHEAD OBSTRUCTIONS WHERE THE SYSTEM WILL BE USED.

(M) ALWAYS RAISE THE FORKLIFT NO MORE THAN 3", STOP, AND THEN CHECK TO SEE THE WEIGHT IS BALANCED FRONT TO BACK AND THE LIFTING PADS (FL-1-00) ARE FULLY ENGAGED UNDER FORKLIFT. (IF NECESSARY, LOWER FORKLIFT AND ADJUST FOR THE CENTER OF GRAVITY).

(N) BE SURE THE LIGHTS ABOVE THE "UP/DOWN" CONTROL BUTTONS OF THE LIFTING POSTS ARE NOT BLINKING.

Fork Lift Operation/Orientation

10.8

Prior to set-up and operation of the Forklift Adapters (FL-3 & FL-3-4), completely familiarize yourself with set-up and operation of two (2) **ARI-HETRA** lifting posts. Full instructions are included in sections 2 through 6 of this manual.

Select a flat concrete surface to set-up the complete Forklift Adapter System. Be sure there are no overhead obstructions.

Determine the width of the forklift to be raised, and, on the shop floor, layout the FL components as indicated on page 34 or 35 of this manual. The lifting pads (FL-1-00) are positioned on the carriage forks of the lifting posts, with the engagement lugs of the FL-1-00 clipped over the top of the back of the lifting carriage. The assembled system will provide a set of parallel drive-on ramps. Make sure the connection cables are clear of the wheel path onto the ramps.

Make sure the touch keypad on the Control is set to 'MULTI' post mode of operation. (Never operate the assembled FORKLIFT ADAPTER SYSTEM with the CONTROL set in the 'SINGLE' post mode of operation).

DO NOT EXCEED THE DESIGN SPECIFICATIONS DETAILED ON PAGE 36

Slowly drive or back the forklift onto the drive-on ramps to the “stop” on the last ramp section. Assistance from another technician to direct the driver on the ramps will facilitate the loading.

Raise the forklift 3" or 4" in the air. Check to see that the unit is being lifted at its center of gravity. If not, lower the unit, and repeat prior steps to achieve a well-balanced load.

The forklift can now be raised so that the technician can perform the required maintenance under the unit. NO ONE SHOULD BE UNDER OR ON THE FORKLIFT WHEN THE UNIT IS IN PROCESS OF BEING RAISED OR LOWERED.

When the work is completed, lower the forklift onto the ramps.

Lifting Platform-Model FL-OM-12

11.1

Inspect the **ARI-HETRA** FL-OM-12 lifting platform immediately upon delivery. A list of the components and a drawing of their set-up is included in section 11.3. If shipping damage is evident, inform the delivering carrier immediately and contact **ARI-HETRA** customer service.

Introduction

11.2 The **ARI-HETRA** FL-OM-12 lifting platform must be used with two (2) lifting posts of the **ARI-HETRA** Mobile Lifting System. This specific section will address the utilization and safety considerations of the combined use of the lifting platform and the two lifting posts. The set-up and use of the mobile lifting posts is addressed in sections 2 through 6 of this manual. The service technicians must thoroughly familiarize themselves with the safe and efficient use of the **ARI-HETRA** lifting posts as outlined in sections 2 through 6 of this manual.

The combined above referenced units comprise the **ARI-HETRA** Forklift System. This system is designed to raise forklifts 68" so that service technicians can perform (in a standing position) the necessary under vehicle maintenance functions. This two-post system is designed to lift narrow aisle forklifts only.

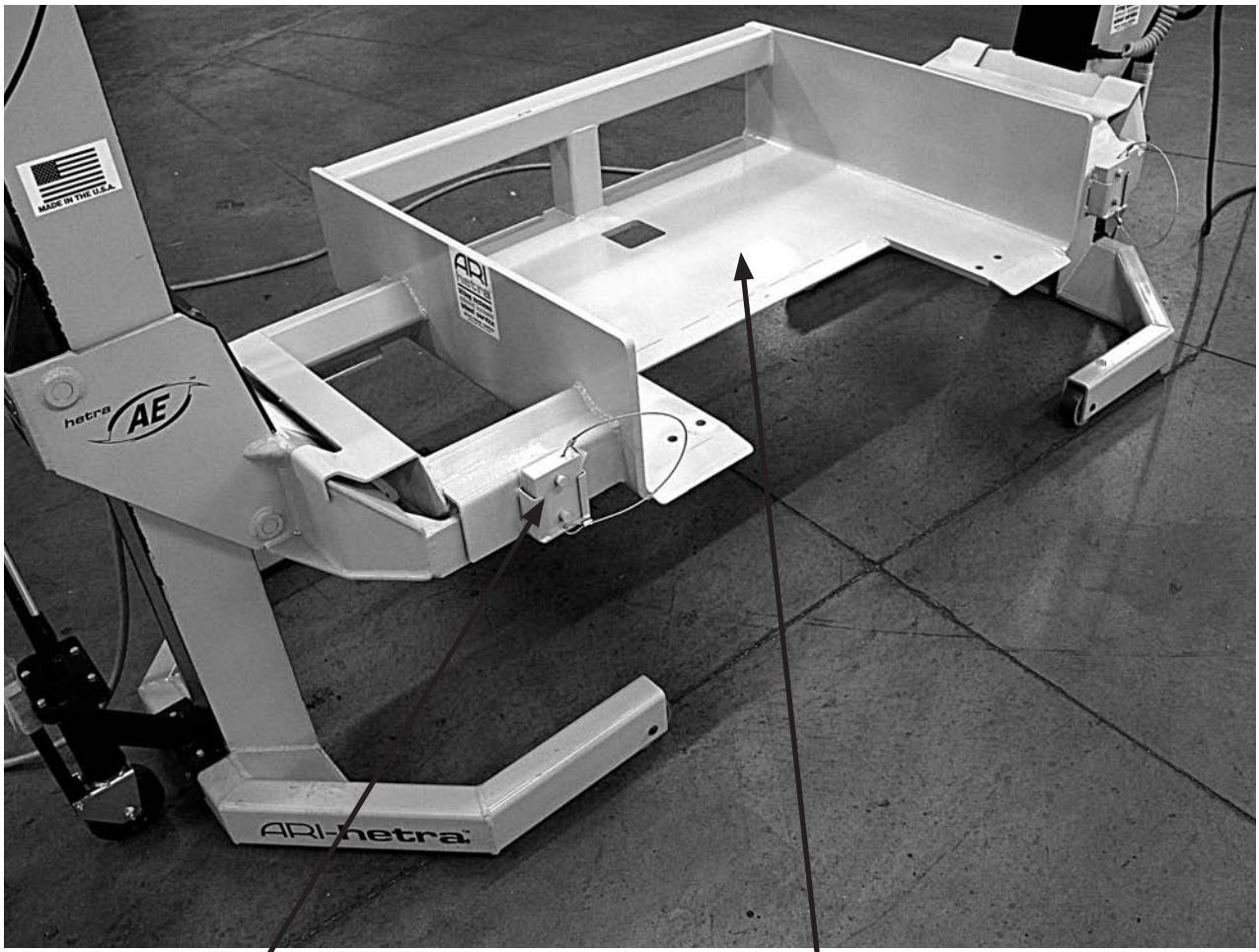
The FL-OM-12 lifting platform lifts a forklift by driving the forklift out rigger wheels (base arms) through the adapter. At that point, position forklift balance point in line with lifting post columns. Full access is provided to drive components beneath the forklift. Full access is also provided to the wheels, brakes and steering components.

FL-OM-12 Component Identification

11.3

QTY	DESCRIPTION
2	SPACER BLOCKS
1	PLATFORM ADAPTER

Figure U: FL-OM-12

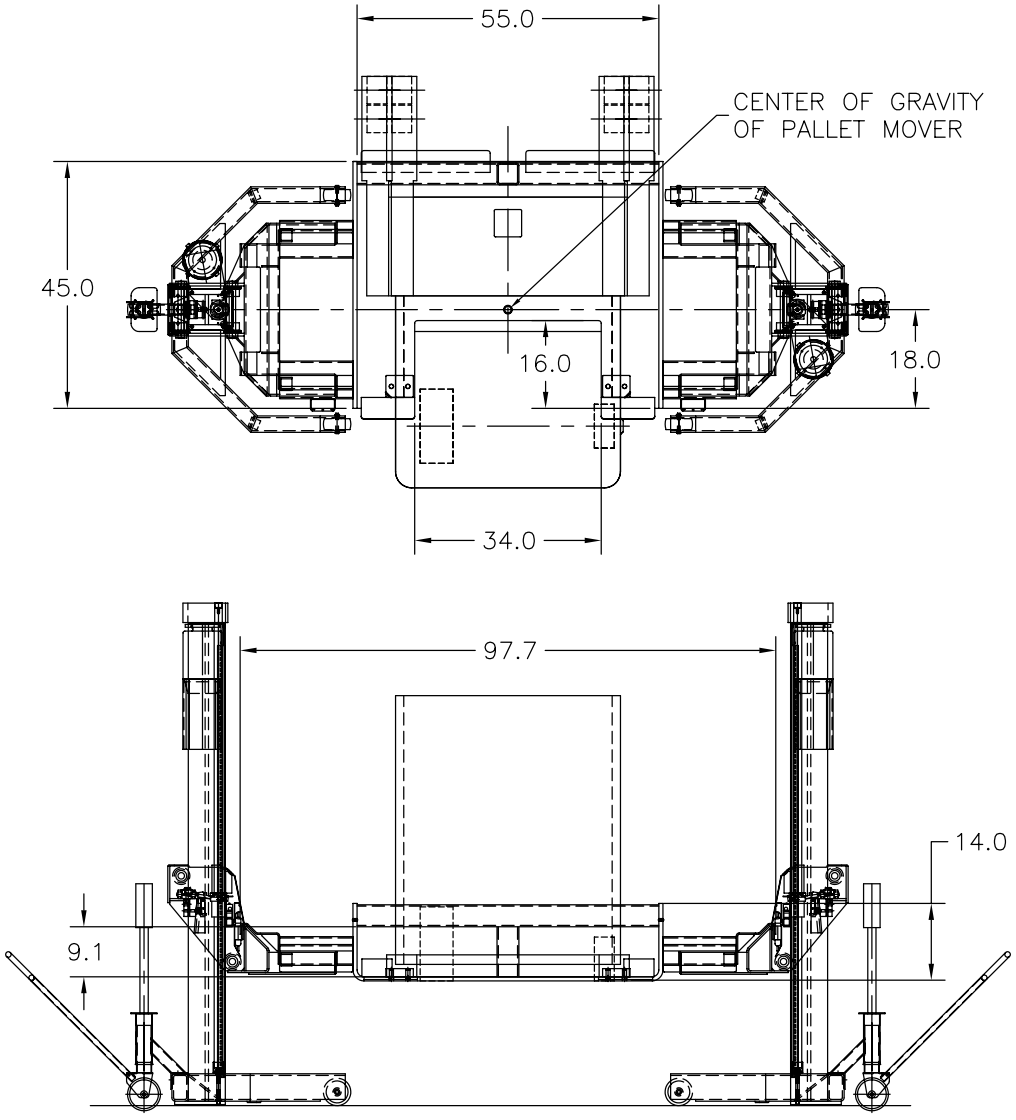


FL-OM-12 Specificaitons

11.4

	FL-OM-12
WEIGHT:	884 lbs
ADAPTER HEIGHT :	14”
ADAPTER WIDTH:	55” Opening
OVERALL ADAPTER WIDTH:	93”
ADAPTER LENGTH:	45”
LIFTING CAPACITY:	12,000 lbs

Figure V: Technical Data/Dimensions of a FL-OM-12



11.5

⚠ WARNING

Study, understand and follow all instructions:

- Provided in this complete manual;
- Listed below;
- On system safety labels.

Failure to heed this warning may result in personal injury and/or property damage.

The **ARI-HETRA Lifting Platform Adapter for Narrow Aisle Forklifts (FL-OM-12)** is designed to safely and efficiently raise forklifts in the air so that service technicians can provide maintenance on all the components under the forklift.

TO SAFELY LIFT A FORKLIFT WITH THE ARI-HETRA FORKLIFT SYSTEM THE SERVICE TECHNICIAN SHOULD:

(A) NEVER LIFT A FORKLIFT WITH A PERSON ON IT.

(B) NEVER "ROCK" A FORKLIFT ONCE IT IS HIGHER THAN 6" IN THE AIR.

(C) NEVER LIFT A FORKLIFT IF CENTER OF LOAD IS NOT IN LINE WITH LIFTING COLUMNS.

(D) NEVER LIFT A FORKLIFT WHOSE UNDERSIDE ISN'T COMPLETELY FLAT OR BLOCKED TO REMAIN LEVEL WHEN LIFTED.

(E) NEVER USE THE FORKLIFT SYSTEM WITH THE CONTROL SET TO 'SINGLE' POST MODE OF OPERATION.

(F) NEVER LIFT FL-OM-12 ADAPTER IF NOT FULLY ENGAGED WITH LIFTING COLUMN.

(G) NEVER LOWER THE LIFT USING THE EMERGENCY MANUAL LOWERING MECHANISM.

(H) NEVER LIFT A FORKLIFT IF THE COUNTERWEIGHT, MAST OR BATTERIES HAVE BEEN REMOVED. (CENTER OF GRAVITY WOULD BE SEVERELY AFFECTED).

(I) ALWAYS SET-UP THE SYSTEM ON A FLAT, LEVEL CONCRETE FLOOR.

(J) ALWAYS BE SURE THERE ARE NO OVERHEAD OBSTRUCTIONS WHERE THE SYSTEM WILL BE USED.

(K) ALWAYS RAISE THE FORKLIFT NO MORE THAN 3", STOP, AND CHECK TO SEE THE WEIGHT IS BALANCED FRONT TO BACK AND THE FORKLIFT IS SITTING LEVEL ON THE PLATFORM (IF NECESSARY, LOWER FORKLIFT AND ADJUST THE CENTER OF GRAVITY).

(L) BE SURE THE LIGHTS ON THE "UP/DOWN" CONTROL BUTTONS OF THE LIFTING POSTS ARE NOT BLINKING.

FL-OM-12 Adapter Operation/Orientation

11.6

Prior to set-up and operation of the Lifting Platform (FL-OM-12), completely familiarize yourself with the set-up and operation of the two (2) **ARI-HETRA** lifting posts. Full instructions are included in sections 2 through 6 of this manual.

Select a level concrete surface to set-up the complete Forklift Adapter System. Be sure there are no overhead obstructions

Determine the width of the forklift to be raised, remove guide angles if over 46", and, on the shop floor, place the FL component as indicated on page 42 of this manual. The lifting platform is positioned on the carriage forks of the lifting posts, with the engagement lugs of the platform clipped over the top of the back of the lifting carriage. Make sure the connection cables are clear of the wheel path onto the platform.

Make sure the touch keypad on the Control is set to 'MULTI' post mode of operation.
(Never operate the assembled FORKLIFT ADAPTER SYSTEM with the CONTROL set in the 'SINGLE' post mode of operation).

DO NOT EXCEED THE DESIGN SPECIFICATIONS DETAILED ON PAGE 36

Slowly drive the forklift onto the platform. Assistance from another technician to direct the driver on the platform will facilitate the loading.

Raise the forklift 3" or 4" in the air. Check to see that the unit is being lifted at its center of gravity. If not, lower the unit, and repeat prior steps to achieve a well-balanced load.

The forklift can now be raised so that the technician can perform the required maintenance under the unit. NO ONE SHOULD BE UNDER OR ON THE FORKLIFT WHEN THE UNIT IS IN PROCESS OF BEING RAISED OR LOWERED.

When the work is completed, lower the forklift to the ground.

Troubleshooting

12.1 In the event a HDML system does not operate, the following items should be examined:

(a) Check to make sure the system is connected to the power source.

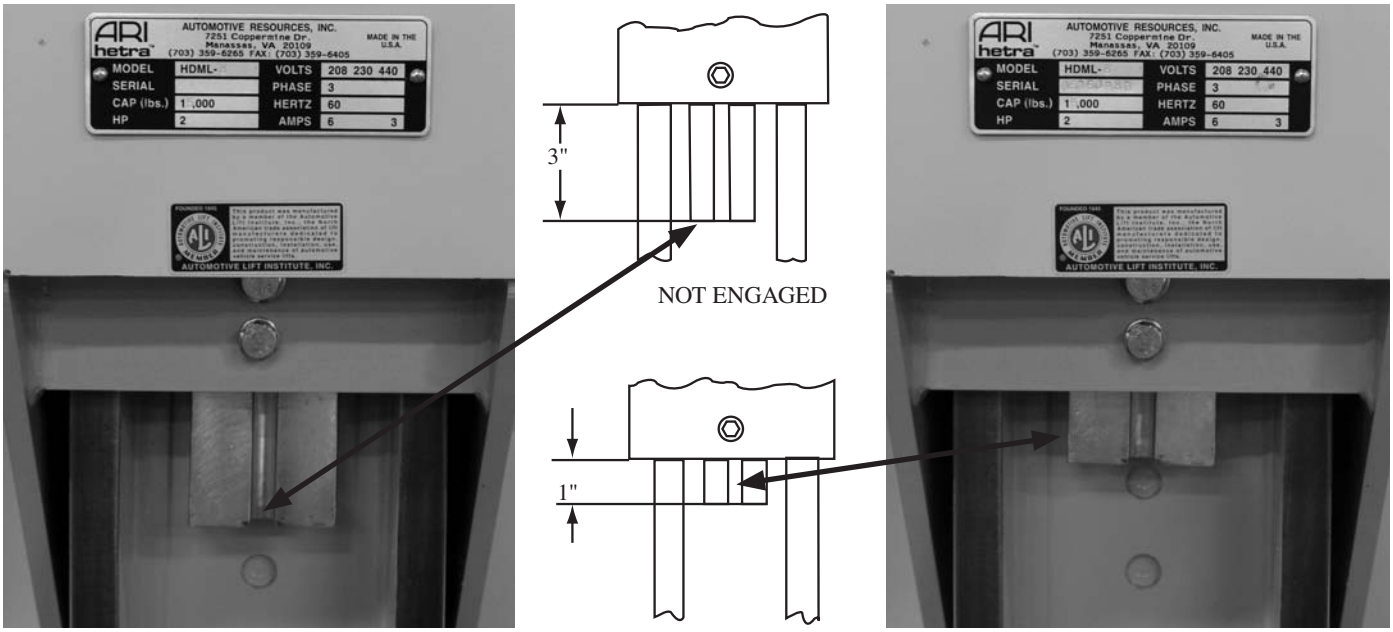
(b) Make sure the cables are connected properly. (See decals on each post)

(c) Make sure the dummy plug is in the last post.

(d) Make sure the Emergency Stop button is not engaged.

(e) Make sure the safety wedge devices are not engaged. (See below)

Figure W: Troubleshooting Safety Wedge



After checking steps (a-e) above and the lifting system still fails to operate, please refer to the following list of problems, causes and solutions.

First, test the power box on several posts individually to ensure that the power box functions properly.

Test each post as a single unit.
The dummy plug must be in the post that is being tested.
The selector button must be in the multiple 'MULTI' position.

12.2 Power Box will not operate on any posts.

With the power box plugged into the power outlet, install the dummy plug into the orange 4' cable and turn the power switch "on". You should hear the reversing relay pull in.

PROBLEM: Reversing relay will not pull in

CAUSE:	SOLUTION:
No power at outlet	Reset breaker and check the supply voltage
Fuse blown in the power box	Replace fuse
Defective power switch (Item 107, Page 60)	Replace power switch
Defective phase control relay (PFR) (Item 104, Page 60) • The PFR supplies 110 volts to energize one of the two (2) coils (depending on the phase sequence) of the reversing relay. Check both coils for voltage. If neither coil has voltage	Replace PFR
Defective reversing relay (Item 106, Page 60) • The coil has voltage but the the relay does not pull in	Replace reversing relay

PROBLEM: With the power on, the 'SINGLE' or 'MULTI' button LEDs do not light

CAUSE:	SOLUTION:
Damaged cable connectors on the control box. (Item 82 & 83, Page 59) • Check mating cable connectors for corresponding damaged	Replace connectors
Touch Keypad is not conntected to main PCB	Reconnect ribbon cable connection
Defective Emergency Stop Switch (Item 77, Page 59)	Replace switch
Open thermal switch in the motor. Check T12-T13 for continuity at (L3) motor plug	Replace motor
Defective printed circuit board (Item 78, Page 59)	Replace printed circuit board
LEDs do not light	Replace Touch Keypad

PROBLEM: Switches light up, motor hums but will not run or runs slow

CAUSE:	SOLUTION:
Check cable connectors on the control box, contact #'s 1, 2, and 3. • Check mating cable connectors for corresponding damage	Replace damaged contacts
Motor brake not releasing	Test with manual release brake tool by inserting the tool and pulling down while operating the 'up' and 'down' buttons.
No voltage to the brake • 110 volts DC @ plug L3 10/11	Replace printed circuit board
Voltage supplied to the brake but brake does not release	Adjust air gap on the brake Replace the brake coil
Defective motor contactors on the printed circuit board	Replace printed circuit board

12.3 Carriage/Motion sensor

The motion sensor system has an internal counter clock. If any post does not move or runs too fast or slow, the system will sense this and open an interlock, shutting the entire system down. The motion sensor circuit can be reset by turning the power switch "off" (waiting a minimum of three (3) seconds) and turning it back "on".

There are three (3) lights on the printed circuit board that indicate the operating condition of the motion sensor circuit. These lights can be viewed through the access hole located above the control pad on each post.

The top green light indicates that the control circuit has power. Each time the power is reset this light will be "on". The center green light will blink when the motion sensor circuit is receiving a motion signal at the correct rate, which indicates the post is operating properly. The bottom red light indicates open or closed circuits and error pulses. An occasional red flash while the system is running is normal.

PROBLEM: Post runs 3" and cuts off

CAUSE:	SOLUTION:
Bad spot in sensor	Replace sensor

PROBLEM: Post cuts off at varying heights

CAUSE:	SOLUTION:
Motion sensor anchor loose or broken (Item 52, Page 57)	Adjust or replace anchor
Timing belt loose on track (Item 66, Page 57)	Replace track (rubber tooth runner)

Manual Lowering of the ARI-HETRA

13.1 In case of a power failure, or if the electrical system of the **ARI-HETRA** lift cannot be activated, the lift can be lowered in the following manner:

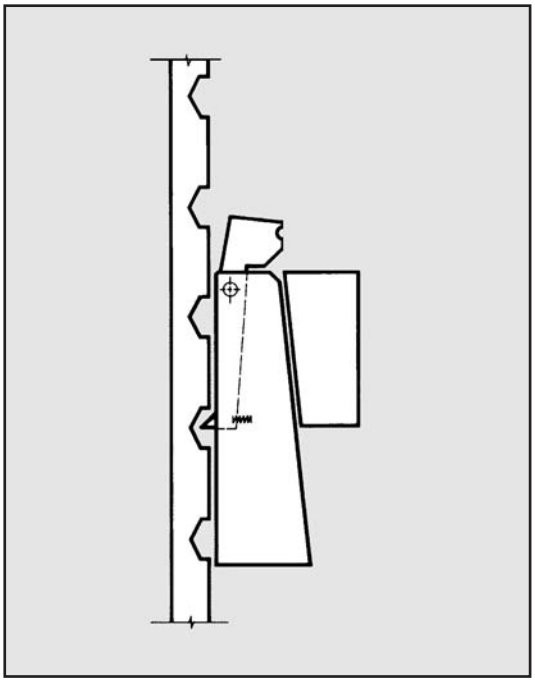
⚠ WARNING

Release the safety wedge (see Figure X, Page 50) on each post before disengaging the motor brake. Failure to do so will engage the safety wedge and prevent the lift from lowering. To disengage safety wedge, press the 'SINGLE' button on the keypad to select 'SINGLE' post mode of operation and press the 'UP' button to run the carriage "UPWARD" to release the safety device.

- Manual release tool is shipped with each system (see Figure X, Page 50).
- Remove plastic plug above the selector switch and install the manual release tool into each motor brake (see Figure X, Page 50).
- The safety wedge engagement finger on each post must be released while lowering. Push inward on the finger on the top of the safety wedge to release (see Figure X, Page 50).
- Gently apply downward pressure on the manual release tool. The lifting carriage will lower. Control the descent by modulating pressure on the release tool.
- Allow the lift to lower no more than 1' at a time. Repeat this operation at each post until the lift is completely lowered. Use extreme caution to prevent vehicle from being tilted to excessive angles or allowing the lift to touch the vehicle.
- We recommend that this lowering method be tried before an electrical failure occurs in order to become familiar with its operation.

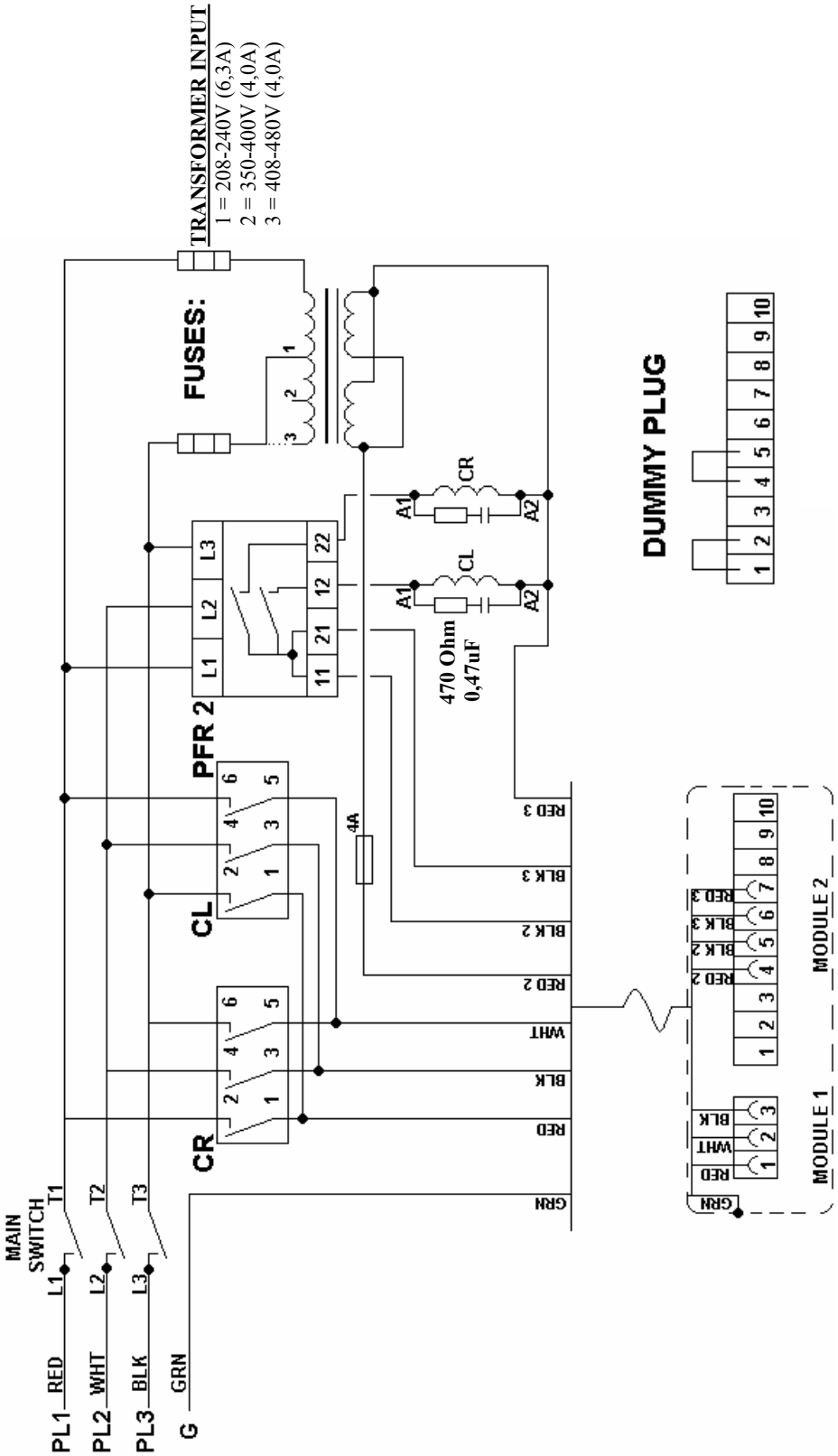
Figure X: Manual Brake Release Tool Access Port

Figure Y: Safety Wedge



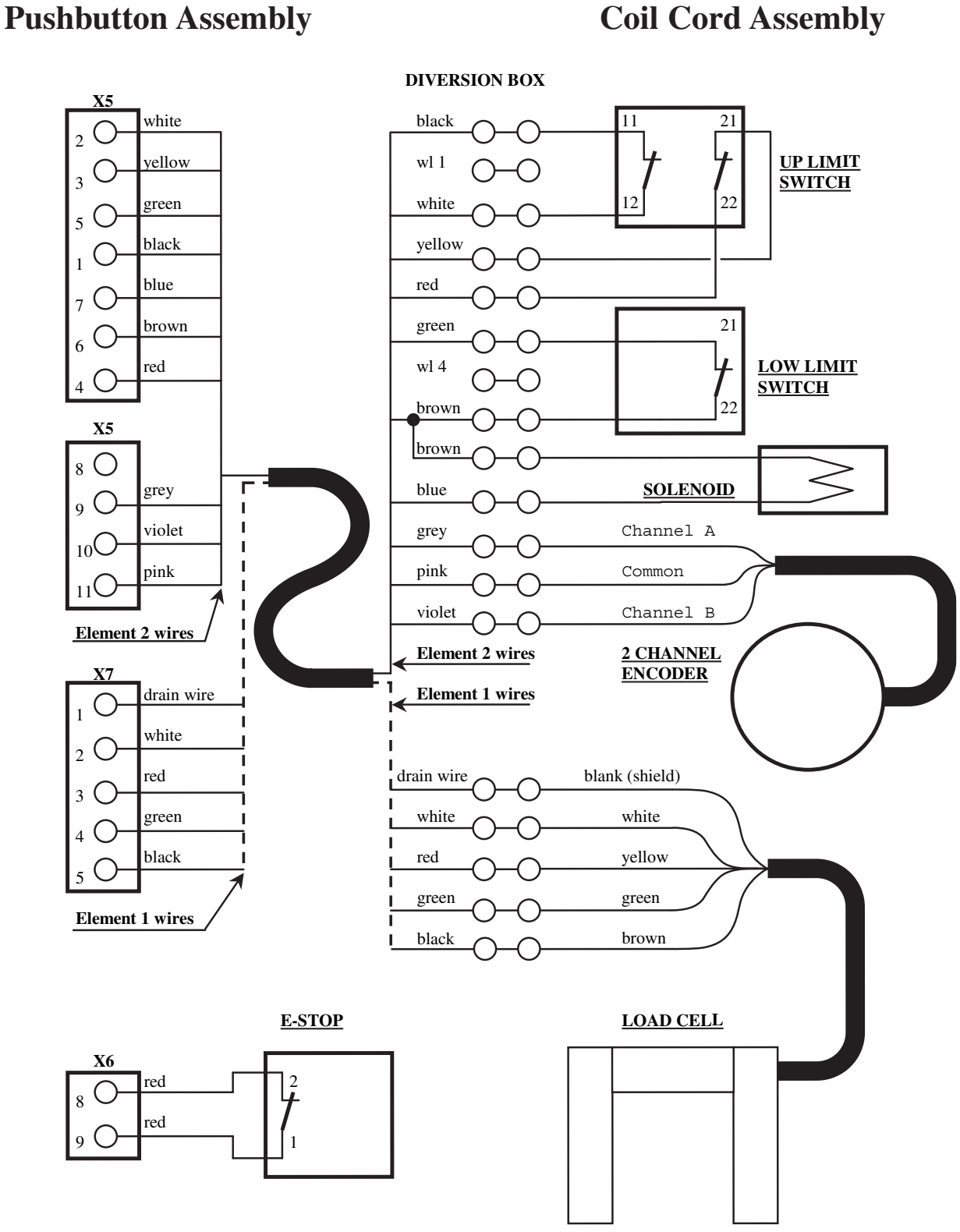
Wiring Schematics

Figure Z: Power Box Electrical Schematic



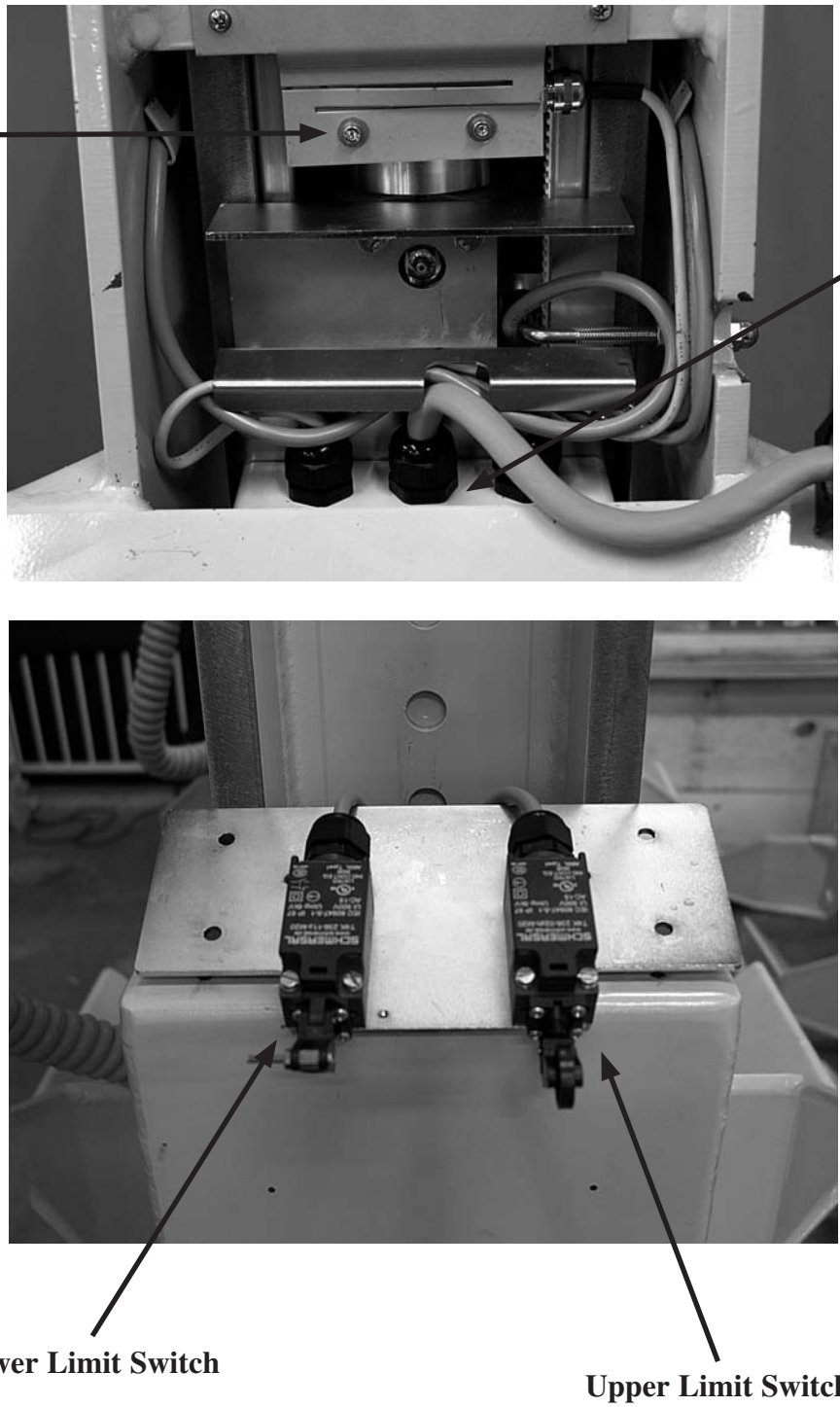
Wiring Schematics

Figure AA: Post Electrical Schematic



Wiring Schematics

Figure BB: Electrical Components



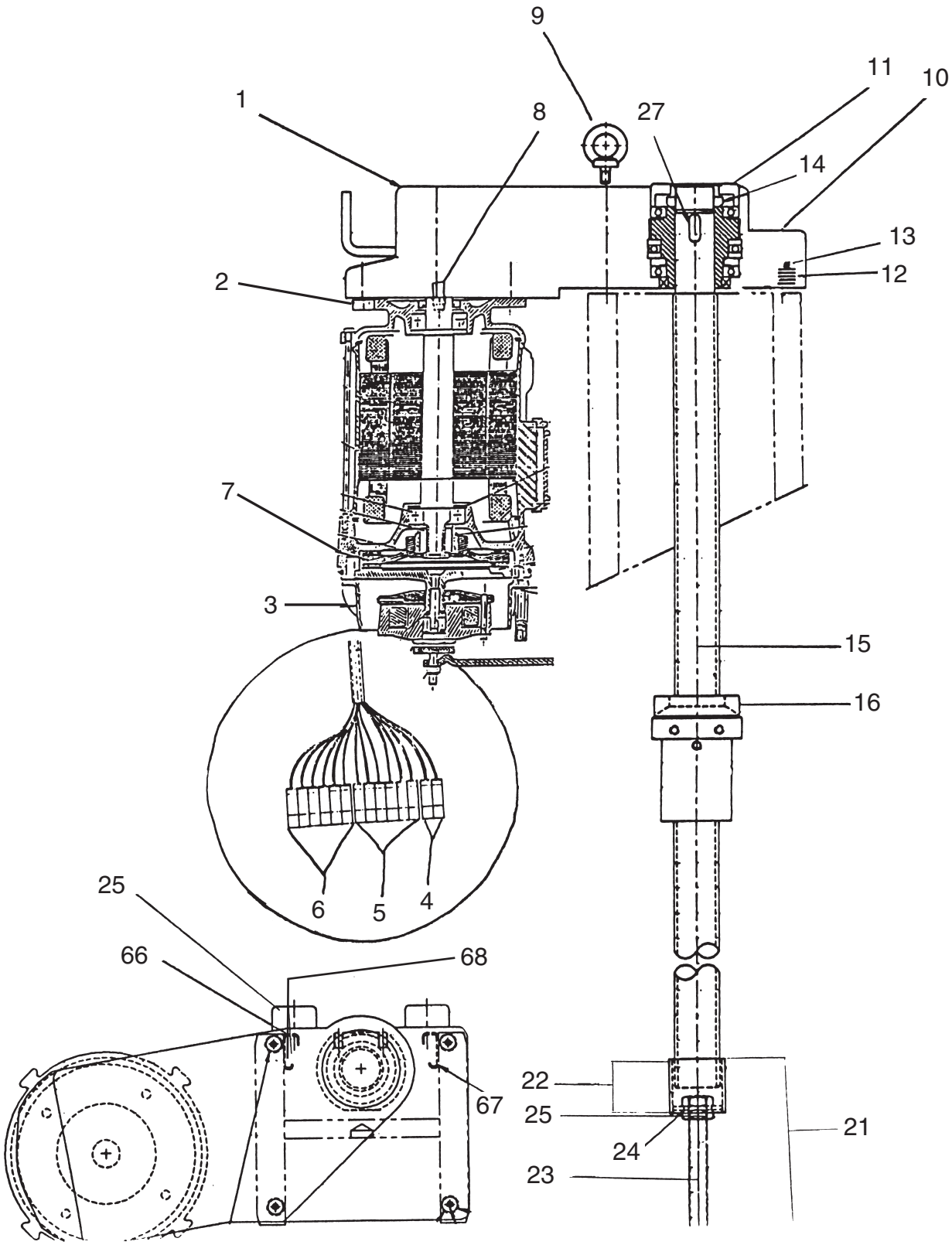
Replacement Parts List

15.1 The numbers shown on the following drawings correspond to the parts list numbers. Also shown are the quantity used and part descriptions.

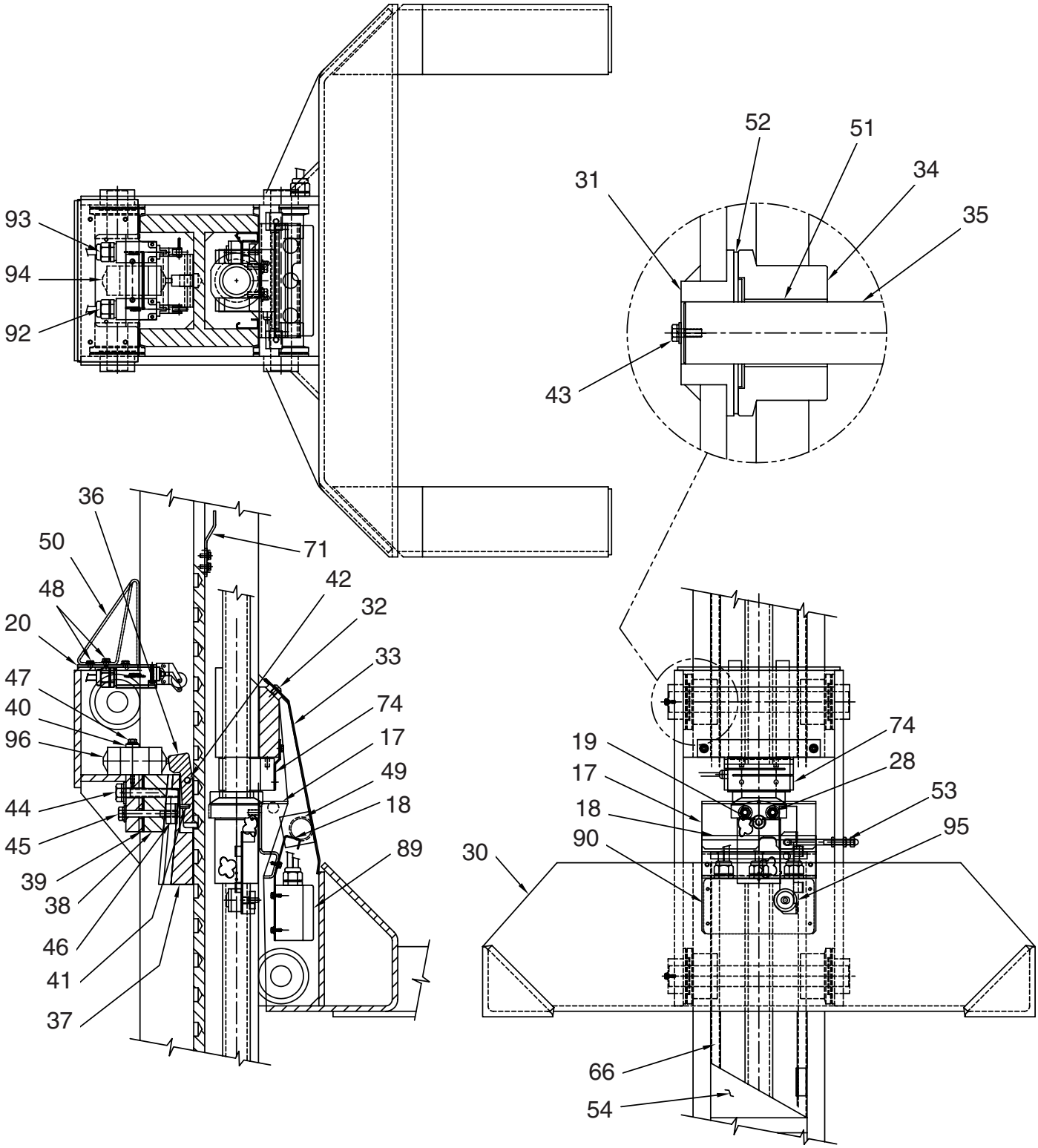
15.2 A purchase order for parts should be issued to the sales agency from which the unit was originally purchased from or to **ARI-HETRA.** When issuing the purchase order, it is important to include the model and serial number found on the manufacturer's identification plate (see Figure H, Page 21). The cost of the parts may be obtained by calling your Regional Manager or **ARI-HETRA** directly.

Replacement Parts

DRAWING I: DRIVE ASSEMBLY

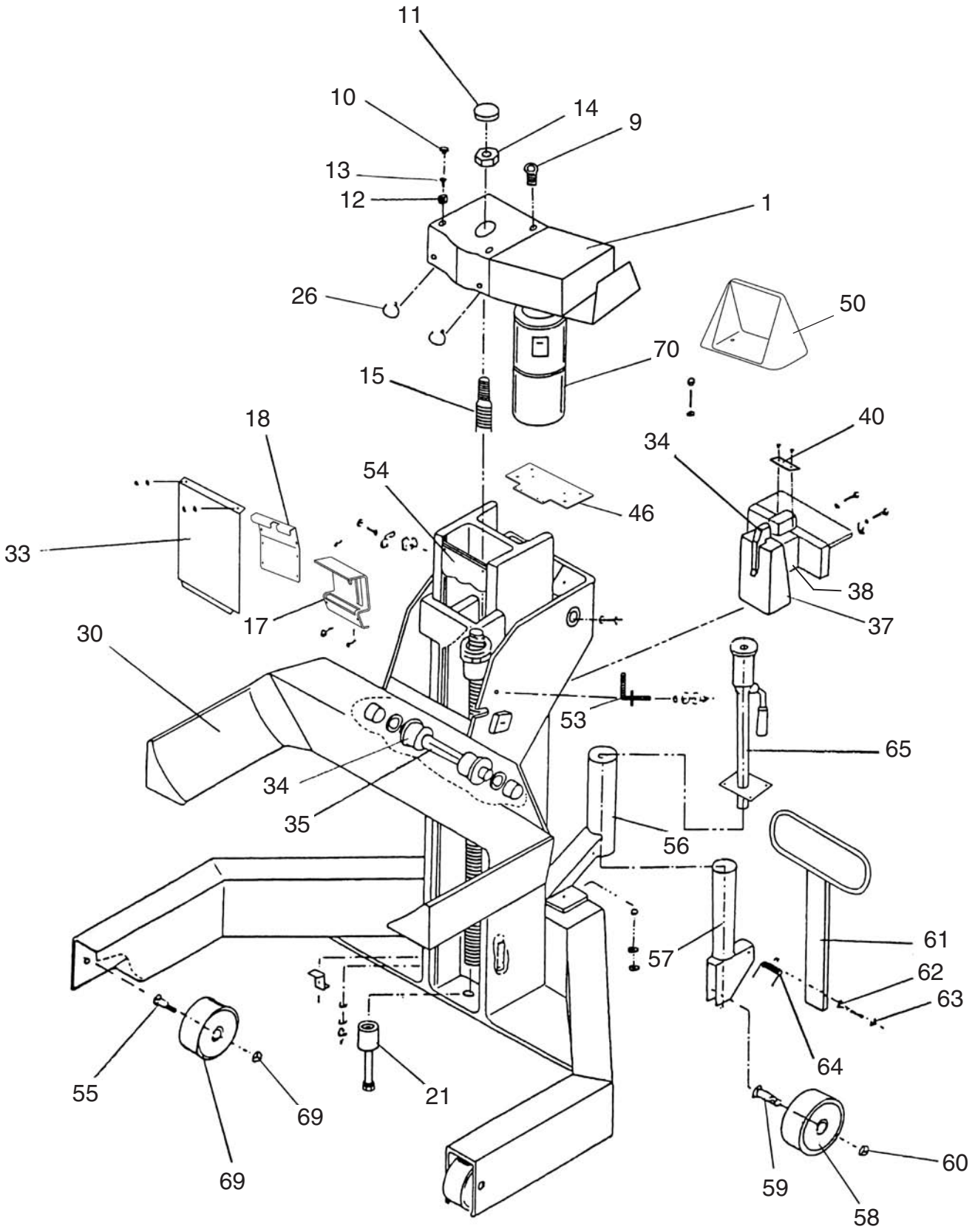


DRAWING II: CARRIAGE ASSEMBLY

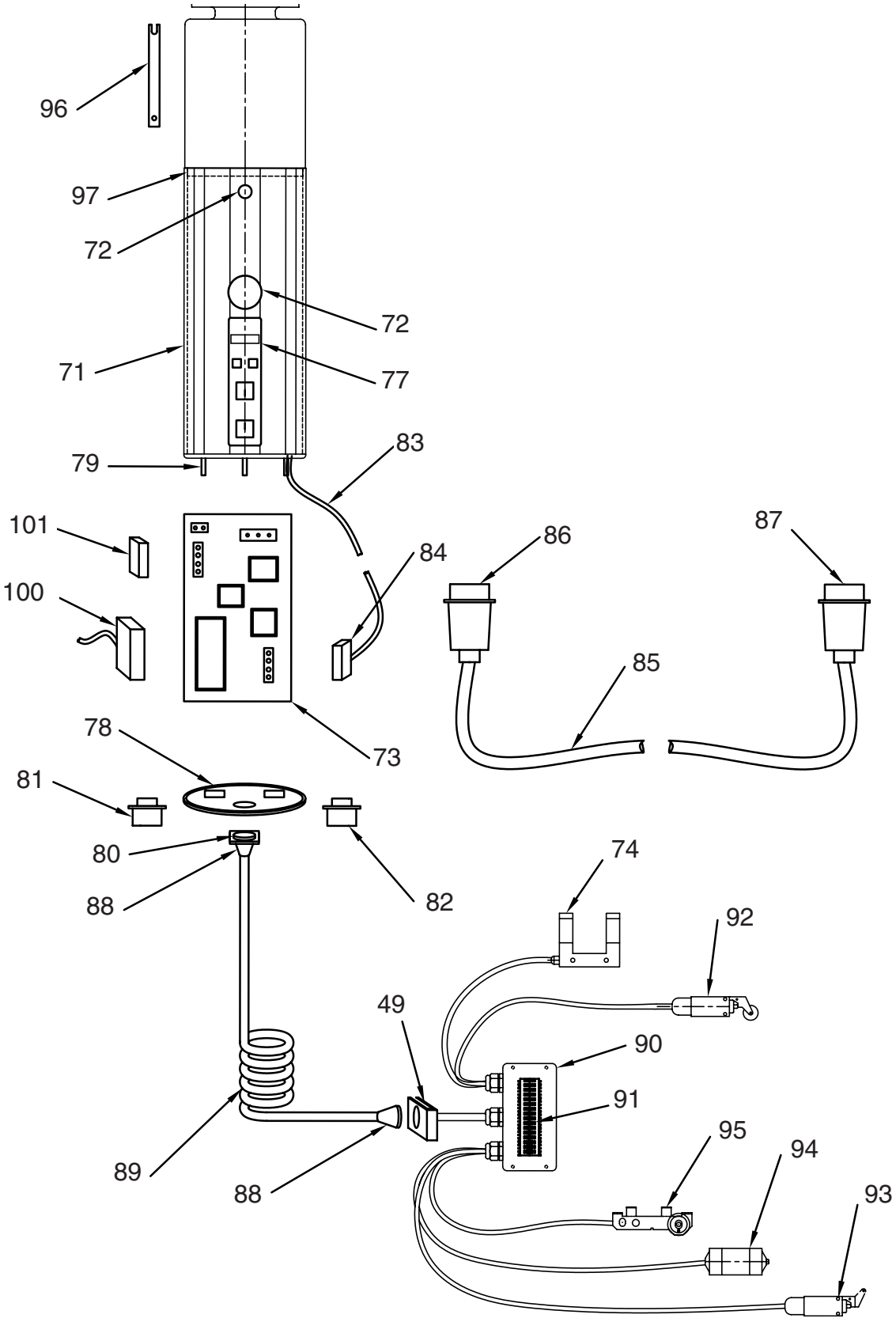


Replacement Parts List

DRAWING III: EXPLODED VIEW

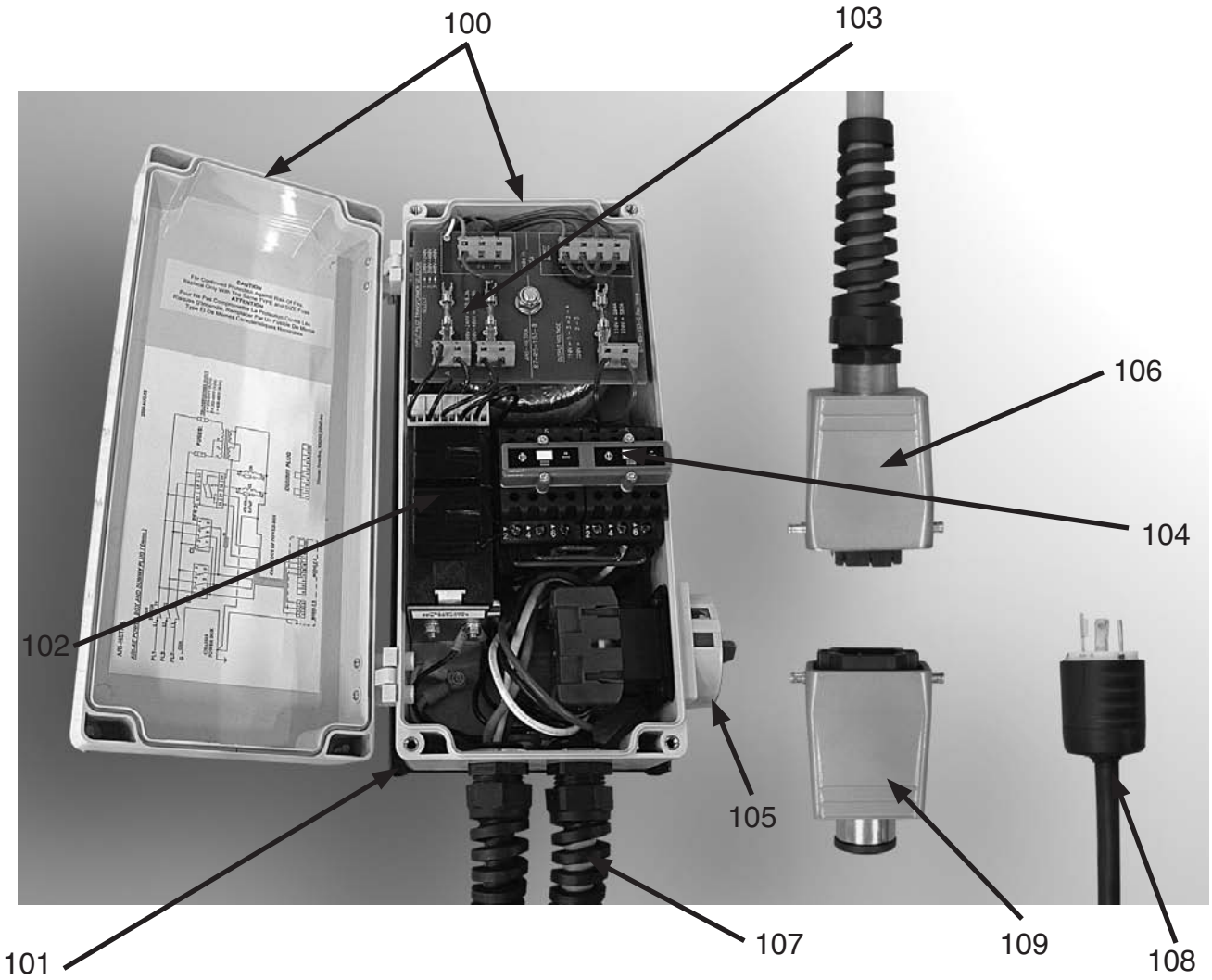


DRAWING IV: ELECTRICAL COMPONENTS



Replacement Parts List

DRAWING V: POWER BOX



Replacement Parts List

* **Model and Serial Number Required When Ordering**

Item Number	Part Number	Quantity	Description
1	001 *	1	Gear Brake Motor
2	001-02 *	1	Motor Flange
3	001-03 *	1	Brake Solenoid
	001-04 *		Motor Only
	001-05 *		Gear Box Only
4	001-06	1	Plug Brake
5	001-07	1	Motor Plug
6	001-08	1	Motor Plug
7	001-09 *	1	Brake Disk
8	001-10 *	1	Pinion 19.4 Ratio
	001-20 *		Shaft Seal for the Motor Flange
9	002-00	1	Lifting Eye Bolt
10	003-00	4	Plastic Plugs M16 x 1.5
11	004-00 *	1	Sealing Cap for Gear Motor
12	005-00	4	Gear Box Leveling Screw
13	006-00	4	Gear Box Mounting Screw
14	007-00	1	Nut M35 x 2.0
15	008-00 *	1	Drive Screw with Ball Nut
	009-01 *		Wiper Seal for Ball Nut
	009-02 *		Ball Bearing
16	010-00	1	Spherical Support Washer
17	011	1	Ball Screw Reaction Plate
18	012	1	Diversion Box Mounting Plate
	013-00	4	Mounting Screw for Diversion Box
	013-01		Lock Washer MS DIN 127
	014-00		Lubricating Nipple M6 Straight
19	014-01	1	Lubricating Nipple M10 Straight
20	015		Top Switch Plate
21	018-00	1	Bottom Bearing Assembly
22	018-01	1	Bottom Bearing in Housing
23	019-00	1	Stud (Threaded Rod) 16 x 150MM
24	020-00	3	Nut for the 019-00
25	021-00	4	Flat Washer for 019-00
26	022-00	2	Rubber Protection on Top
	022-02		Screw 8 x 40MM 1.25P
27	023-00	1	Key for 008-00

(NSS = Not Sold Seperately)

Replacement Parts List

* **Model and Serial Number Required When Ordering**

Item Number	Part Number	Quantity	Description
28	024-00	2	Bolt M8 x 20 for Ball Screw Reaction Plate
	024-01		Lock Washer M8
	025-00	2	Diversion Box Mounting Screw
	026-00	6	Mounting Screw for Limit Switch
	026-01		Lock Washer M4
29	028-00		Upper Limit Switch Stop
30	036 *	1	Lift Carriage (Standard)
31	036-01	4	Weld In Axle Bushing
	036-02 *	1	Lifting Carriage (Wide)
32	037-00	2	Bolt for Front Mounting Cover
	037-01		Flat Washer M8
33	038-00	1	Front Cover Plate
34	039-00	4	Guidance Wheel Support w/o DU-Bearing (056-00)
35	040-00	2	Axle for Carriage Rollers
36	041-00	1	Finger of Security Device (NSS)
37	042-00	1	Cone of Security Device - Safety Wedge
38	043-00	1	Counter Cone, Security Device
39	043-01	2-5	Shim for Safety Wedge Assembly
40	044-00	1	Clamping Plate for Solenoid
41	045-00	1	Spring for Finger Safety Wedge (NSS)
42	046-00	1	Roll Pin for Safety Wedge (NSS)
43	047-00	2	Axle Locking Bolt M5 x 12
44	048-00	1	Bolt M12 x 80 DIN 933 ZP
	048-01		Flat Washer M12 DIN 125 ZP
	048-02		Lock Washer M12 DIN 127-B
45	049-00	1	Bolt M10 x 75 DIN 931 ZP
	049-01		Flat Washer M10 DIN 125-A-ZP
	049-02		Lock Washer M10 DIN 127-B-ZP
46	050-00	1	T-Nut Stone M12 10-8 DIN 508
47	051-00	2	Solenoid Clamping Bolt M6 x 55
	051-01		Fender Washer 6 x 18 x 1.6MM
	051-02		Lock Washer M6 DIN 127-B
48	053-00	2	Bolt M6 x 12 DIN 933 ZP
49	054	1	U-Clip for Spiral Cable
50	055	1	Black Plastic Rear Cover
	055-01	1	Warning Label for Cover
51	056-00	8	Du-Bearing for Guidance Wheel (NSS)

Replacement Parts List

* **Model and Serial Number Required When Ordering**

Item Number	Part Number	Quantity	Description
52	057-00	4	Du-Skating Washer for Guidance
	057-02		Bronze Thrust Washer for Guidance
	059-00	2	Round Head Groove Pins(Cotter)
53	060-00	1	Guidance Screw for Inductive
	064-00 *		Post-Base, Column Complete
	065-00 *	1	Base With Column
	065-02	2	Pair of Gusset (Base Support)
	065-03 *		Base Only
54	067-00		PVC Screw Protection Cover
	068-00		Mounting Screw for PVC Screw
55	069-00	2	Bolt 1/2 x 3-1/2” Socket Head
	070-01	1	Pivoting Assembly Complete
56	071-00	1	Pivoting Assembly Holder
57	072-00	1	Pivoting Assembly Only
58	073-00	1	Back Wheel
59	074-00	1	Hex Head Screw M12 x 90
60	075-00	3	Self-Locking Nut 1/2-13 Elas.
61	076-00	1	Handle
62	077-00	1	Bolt M8 x 80 DIN 931
63	078-00	1	Steering Handle Nut M8 DIN 985
64	079-00	1	Steel Spring
65	082-00 *	1	Hydraulic Pump
	084-01 *	1	Rebuild Kit for REICO Pump
66	085-00	1	Rubber Tooth Runner Complete
	085-01		Rubber Timing Material
	086-00	2	ARI-HETRA Decal
	086-01		System Warning Label UL Rated
	086-03		Decal, 12,000 lbs. Capacity
	086-04		Decal, 15,000 lbs. Capacity
	086-05		Decal, 16,000 lbs. Capacity
	086-06		Support Stand Warning Label
	086-07		ALI WL4OO-C Caution Label

Replacement Parts List

* **Model and Serial Number Required When Ordering**

Item Number	Part Number	Quantity	Description
	086-08		Safety Instruction WL4OO-S Label
	086-09		ALI WL4OO-W Warning Label
	086		Operation and Service Manual
	086-150	1	Preventive Maintenance Label
67	087-00	1	C-Bars
	089-00	8	Flat Washer, ZP MS DIN 125A
	090-00	8	Mounting Nut for C-Bar
68	093-00	2	Clip for Rubber Tooth Runner
69	095-00 *		5” Steel Front Wheel
	098-00	4	Mounting Screw (order 024-00)
	098-01		Body / Fender Washer M8
	098-02		Lock Washer M8
70	100	1	Extrusion Control Box Complete
71	101-00	1	Black Hole Plug
72	104		Switch, Security Off Complete
73	106		Printed Circuit Board Assembly
	106-01 *	1	Relay / Contractor 110 Volts
	106-09	6	Plastic Ties
	106-12	12	Brass Threaded Inserts
74	107-00		Load Cell
75	107-10		Load Cell Mounting Plate
76	107-01		Load Cell Connector
77	107		Control Pad
78	108-10 *	1	Printed Circuit Base (Metal)
	108-01	2	Phillips Panhead 10 x 1/2 sheet
79	109	3	Threaded Rod Complete

Replacement Parts List

✻Model and Serial Number Required When Ordering

Item Number	Part Number	Quantity	Description
	109-04		Acorn Nut ZP M6 DIN 1587
80	110-00	1	Retaining Flange, Spiral Cable
81	111-10 *	1	Female Connectors for Control Box
	111-11	1	Female Frame
	111-12	1	3 Contact Female Module
	111-13	1	10 Contact Female Module
	111-14	3	Large Female Pin
	111-15	8	Small Female Pin
	111-16	2	Metal Housing w/Latch
82	112-10 *	1	Male Connectors for Control Box
	112-11	1	Male Frame
	112-12	1	3 Contact Male Module
	112-13	1	10 Contact Male Module
	112-14	3	Large Male Pin
	112-15	8	Small Male Pin
	113-00	12	Connector Mounting Screw
83	115-00	1	Wiring Harness for Switch Plug
84	115-01	1	Wiring Harness Plug Only
85	116-10 *		Orange 36’ Connection Cable w/Metal Ends
	116-17 *		Orange 50’ Connection Cable w/Metal Ends
	116-30		2’ Adapter Metal Female to Plastic Male
	116-40		2’ Adapter Metal Male to Plastic Female
86	117-10 *	1	Metal Female Cable End
	117-16	2	Metal Cable End Housing
	117-18	1	Label Indicator (Right)
87	118-10	1	Metal Male Cable End
	118-18	1	Label Indicator (Left)
	119-00	2	Strain Relief (order 157-00)
88	120-00	2	Strain Relief w/Bending Protection
89	121-00	1	Spiral Cable
90	122	1	Diversion Box (Junction Box)
91	123-00	1	Diversioner (Terminal Strip)
92	129-00	1	Limit Switch (Up) Complete
93	131-00	1	Limit Switch (Down) Complete
94	132-00	1	Solenoid 110 Volt Complete
95	134	1	Inductive Sensor Complete
96	135-01	1	Lever for Manual Brake Release

Replacement Parts List

✻ Model and Serial Number Required When Ordering

Item Number	Part Number	Quantity	Description
97	137-00 *	1	Sealing O-Ring
98	138-00	1	Plug for Spiral Cable
	138-01		Wago
	138-02		2 Cond Wago
99	139-00	1	Voltage Plug 208/230 Standard
	140-00		Plug 380/440 Volt
100	150-00	1	Empty Power Box
	150-02		Internal Mounting Plate
	150-03		Screw for Power Box Lid
	150-04		Set of Hinges for Power Box
101	151-00	1	Mounting Plate for Power Box
102	152-00	1	Phase Control Relay
103	153-00	1	Transformer, Fuse Plate & Hardware
	153-01	1	Fuse Print Plate
	153-07		Fuse, 4.0 AMP
	153-08		Fuse, 6.3 AMP
104	154-00	2	Reversing 30 Amp Relay
105	155-00	1	On / Off Switch
	155-01	1	Lockable Operator Knob
106	156-10 *	1	4’ Cable w/Metal Connector
107	157-00	2	Strain Relief w/Flexible PR
108	158-00	1	Power Cable
	158-01	1	Twist Lock Plug 30 AMP 3 HP
109	159 *	1	Metal Dummy Plug
	161-00		Touch-Up Paint

General Lockout/Tagout Procedure

16.1 **Purpose and Scope**

The purpose of this procedure is to prevent injury to employees, operators or maintenance personnel from unexpected start-up, energizing or release of stored energy from the lift system during repair, servicing or maintenance.

This standard specifies the minimum locking, tagging, clearing and trying procedure necessary to prevent injury from an inadvertent start-up, or release of energy or material. Read and understand standard ANSI Z244.1 – 2003 Safety Requirements for the Lockout/Tagout of Energy Sources.

16.2 **Steps to Follow:**

Step 1 - <u>Preparation For Shutdown</u> – Personnel authorized to Lockout/Tagout the lift system shall notify all affected personnel in the area that the lift system will be Locked/Tagged out.

Step 2 – <u>Equipment Shutdown</u> – The equipment shall be shut down by lowering any vehicle and turning the Main Control Switch to "off" or '0'. The Main Control Switch is the red/yellow switch attached to the power box (see figure CC page 68).

Step 3 – <u>Equipment Isolation</u> – Turn off supply power at the Facility/Building Main Disconnect Box. Remove the Main Power Cord from the supply power receptacle. The Main Power Cord is connected to the power box.

Step 4 – <u>Application of Lockout/Tagout Device</u> – Locks/Tags shall be applied to the isolation device. All personnel working on the lift shall be responsible for attaching a personal lock onto the Main Control Switch or Building Main Disconnect box, without exception (see fig DD page 68).

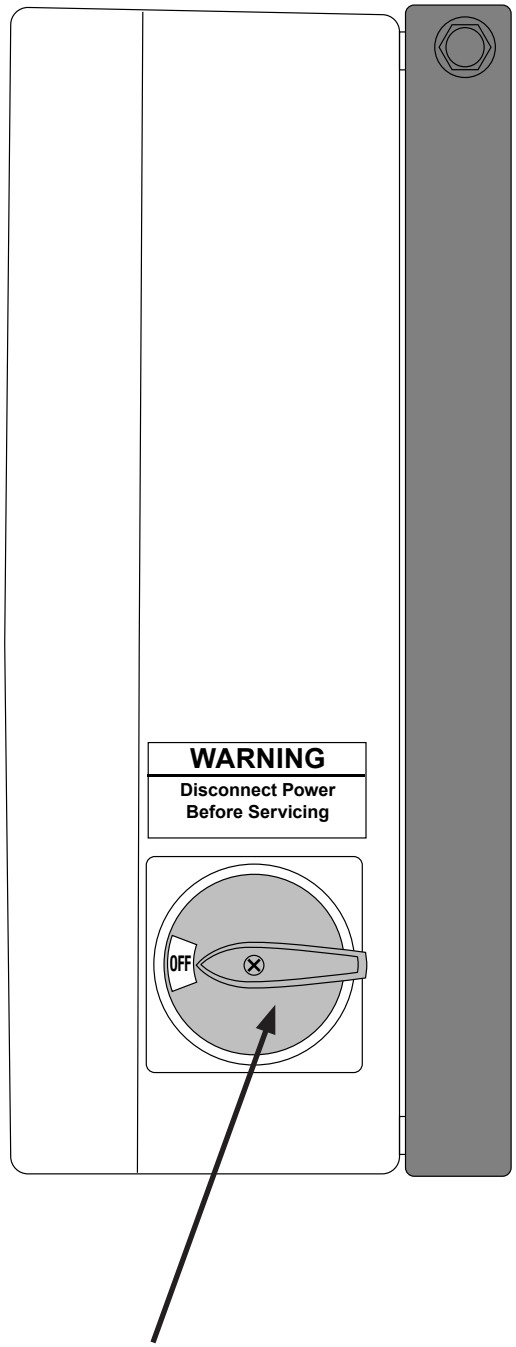
Step 5 – <u>Stored Energy</u> – After applying Locks/Tags to the energy isolation devices, all potentially hazardous stored or residual energy must be relieved, blocked, bled, restrained or rendered safe.

Step 6 – <u>Verification of Isolation</u> – Prior to starting repair, service or maintenance work and after isolation and Lockout/Tagout, verify the lift is de-energized by pressing the lift "up/down" buttons and confirm that it does not move and the Digital Display Readout is blank.

Step 7 – <u>Release from Lockout/Tagout Control</u> – Prior to restoring energy/power to the lift, remove all tools, replace all covers/guards and ensure that all personnel are clear and informed that energy/power will be restored to the lift system. Then, the Main Power Cord can be plugged into the supply power receptacle, Locks/Tags can be removed and the Main Disconnect Power can be restored.

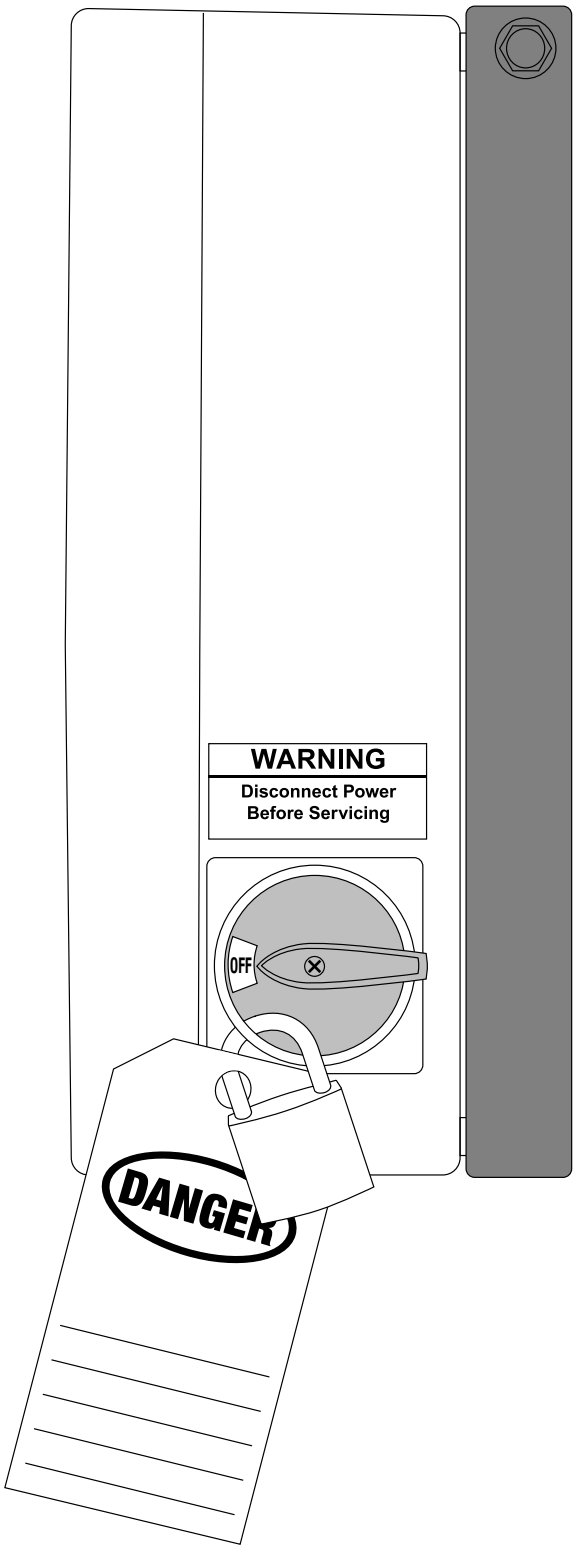
General Lockout/Tagout Procedure

Figure CC: Switch Set to Off



Main Control Switch

Figure DD: Lockout Tag on Power Box



16.3 Maintenance inspections should be performed every (90) days. To facilitate this inspection service, refer to the quarterly service inspection checklists (starting page 71). A service log should be maintained.

16.4 The purpose of these inspections is to ensure the continued safe operations of the **ARI-HETRA** lifts. In addition, the inspections are to maintain the proper lubrication on the lifting ball nut, wheels and hydraulic pump. Any part(s) found damaged or worn should be replaced immediately.

(a) Lifting Ball Nut-Lubrication: Raise the carriage halfway with the "up" button. Remove the black front cover plate of the carriage. Remove the two (2) phillips screws on the top of the beam to remove the protective cover. The “lifting ball nut” grease fitting is in the middle of the limit switch mounting plate (see Figure EE, Page 70). Use a hand operated grease gun to apply only three (3) shots of automotive type grease into the lifting ball nut grease fitting. **DO NOT** over lubricate or use air operated grease guns.

(b) Roller: The rollers inside the carriage are equipped with self-lubricating bushings. Check the rollers for worn or damaged bushings and thrust bearings.

(c) Bottom Bearing: The bottom bearing is located behind the protective cover at the base of the drive screw. Remove the two (2) phillips screws at the bottom of the beam that holds the protective cover. Inspect for wear.

(d) Front Wheels: The front wheels have grease fittings on one side near the axle. Apply grease with a grease gun until the grease appears near the axle.

(e) Pivot Assembly: The pivot assembly may be raised up and greased if necessary.

(f) Hydraulic Jack: Check the oil level of the hydraulic pump (see Figure FF, Page 70). Be sure the hydraulic lift is in the lowered position and not engaged. Remove oil plug/screw. The oil level should be 1" below the hole. If oil is required, use automotive transmission fluid.

(g) Safety Wedge Finger: Check the safety wedge with the lift in the lowered position. Operate the “up” button and visually check that the safety wedge finger engages in each hole while traveling in the “up” direction. Keep safety devices clean of debris and lubricate with a light spray oil.

⚠ WARNING If the safety wedge finger does not engage in every hole, the safety wedge is not operatating properly and the lift should not be used until the problem is resolved.

(h) Limit Switch: Test all limit switches for proper operation.

(i) Connection Cables: Inspect cable jacket and connectors for damage.

Figure EE: Lifting Nut Lubrication

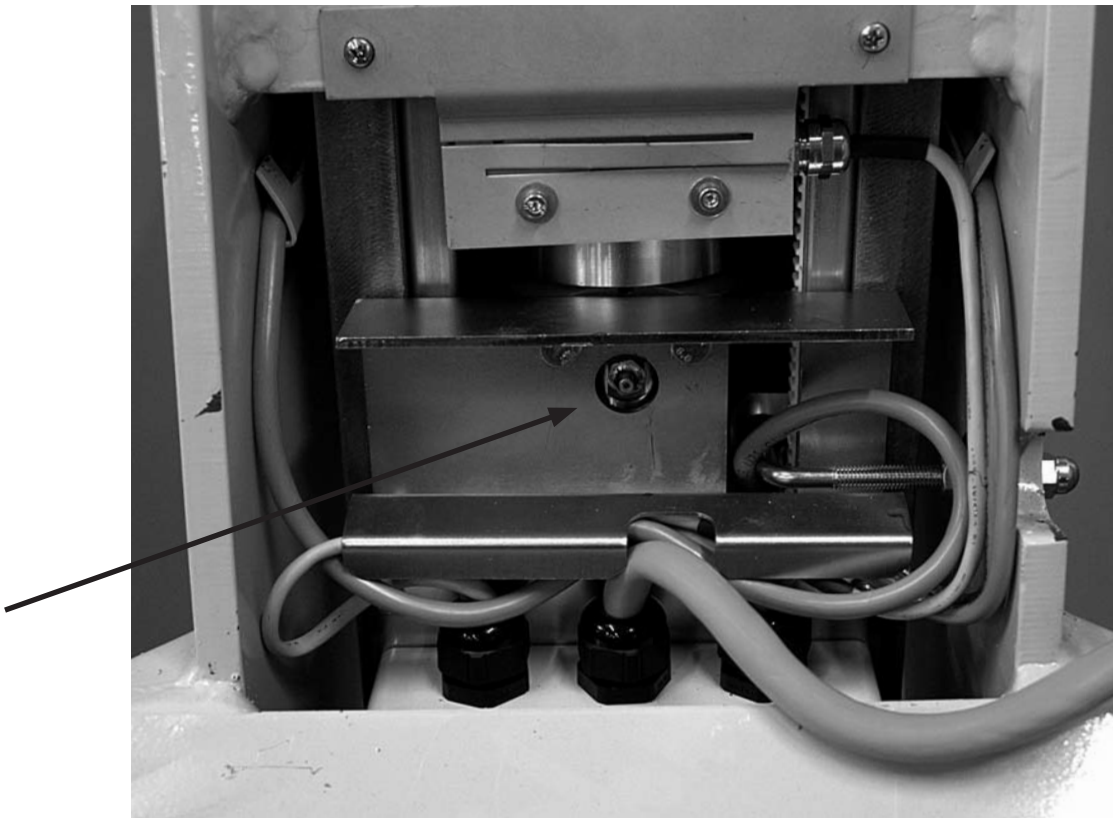
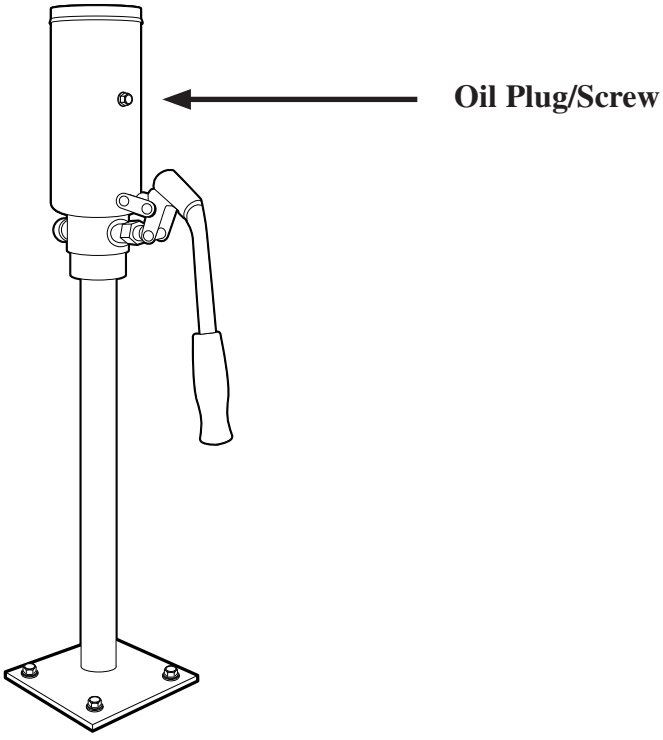


Figure FF: Hydraulic Jack



Quarterly Service Inspection Check List

ARI-HETRA Models HDML 6AE, 8AE, & 9AE

Customer: _____ Serial Numbers: _____

Service Date: _____ Last Service Date: _____

PERFORM THE FOLLOWING INSPECTION AND SERVICE ON EACH LIFTING POST EVERY **90** DAYS:

1. Make general visual inspection of entire unit to judge overall condition _____
2. Safety lock finger _____
3. Safety lock solenoid _____
4. "Up" limit switch _____
5. "Down" limit switch _____
6. Power "on/off" switch - power box only _____
7 "Up" & "Down" buttons _____
8. Inspect carriage movement sensors and track _____
9. Inspect condition of main relays _____
10. Inspect ball screw _____
11. Cables and connectors _____
12. "Emergency" switch _____
13. Dummy plug-pins _____
14. Carriage & roller bearings _____
15. Hydraulic jack _____
16. Wheels _____
17. Warning labels _____
18. Spray silicone on rubber guard in front of screw _____

PERFORM EVERY **90** DAYS:

1. Grease ball-screw nut (three shots only) _____
2. Grease & Oil wheel shafts _____

Repair required: _____
_____
_____

Repair performed: _____
_____
_____

Inspected by: _____ Date: _____

Quarterly Service Inspection Check List

ARI-HETRA Models HDML 6AE, 8AE, & 9AE

Customer: _____ Serial Numbers: _____

Service Date: _____ Last Service Date: _____

PERFORM THE FOLLOWING INSPECTION AND SERVICE ON EACH LIFTING POST EVERY **90** DAYS:

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4. "Up" limit switch _____
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10. Inspect ball screw _____
11. Cables and connectors _____
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PERFORM EVERY **90** DAYS:

1. Grease ball-screw nut (three shots only) _____
2. Grease & Oil wheel shafts _____

Repair required: _____
_____
_____

Repair performed: _____
_____
_____

Inspected by: _____ Date: _____

PROTECT: Your Employees, Yourself, And Your Investment!

Ensure that your system is operating according to factory specifications.

Prolong the useful life of your equipment.

Have all required repairs due to normal use of the equipment done at no additional cost for parts or labor.

ARI-HETRA uses only factory-trained employees or representatives.

Automotive Resources, Inc.
7251 Coppermine Drive
Manassas, Virginia 20109
(703) 359-6265
FAX (703) 359-6405
(800) 562-3250
Web Site: www.ARI-HETRA.com
E-Mail: webmaster@ARI-HETRA.com

SERVICE:

ARI-HETRA will perform the following inspection and service on each lifting post (semi-annually or quarterly depending on service level selected by you):

1. Inspect/Adjust Safety Wedge
2. Safety Lock Finger
3. Safety Lock Solenoid
4. Up Limit Switch
5. Down Limit Switch
6. Up and Down Buttons
7. Inspect Carriage Movement Sensors and Track
8. Inspect Condition on Main Relays
9. Inspect and Grease Ball Screws
10. Cables and Connectors
11. Emergency Stop Switch
12. Dummy Plug Pins
13. Carriage and Rollers Bearings
14. Hydraulic Jack
15. Wheels-Grease and Oil Shafts
16. Warning, Safety and Inspection Labels
17. Spray Silicone on Rubber Guard Covering the Drive Screw
18. Power On/Off Switch
19. Voltage Rating
20. Train/Retrain Personnel
21. Provide Current Operations Manual
22. Clean and Evaluate Overall Condition of the System
23. Provide You With Signed Service Report For Your Records

Don't delay: fax or mail back the response and keep your system working like new!

YES, ☐ I'm interested in a Warranty/Preventative Maintenance Agreement.
NO, ☐ Not at this time, but call me in 6 months.

Company Name _____ Phone _____

Your Name _____ Fax _____

Street Address _____

City _____ State _____ Zip _____

PROTECT: Your Employees, Yourself, And Your Investment!

Ensure that your system is operating according to factory specifications.

Prolong the useful life of your equipment.

Have all required repairs done on the spot.

ARI-HETRA uses only factory-trained employees or representatives.

ARI-HETRA will perform the following inspection and service on each lifting post:

1. Inspect/Adjust Safety Wedge
2. Safety Lock Finger
3. Safety Lock Solenoid
4. Up Limit Switch
5. Down Limit Switch
6. Up and Down Buttons
7. Inspect Carriage Movement Sensors and Track
8. Inspect Condition on Main Relays
9. Inspect and Grease Ball Screws
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23. Provide You With Signed Service Report For Your Records

ARI hetra™ Lifting Systems

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E-Mail: webmaster@ARI-HETRA.com

YES, ☐ I'm interested in a Annual Preventative Maintenance Agreement.
YES, ☐ I'm interested in a Semi-Annual Preventative Maintenance Agreement.
YES, ☐ I'm interested in a Quarterly Preventative Maintenance Agreement.

NO, ☐ Not at this time, but call me in 6 months.

Company Name _____ Phone _____

Your Name _____ Fax _____

Street Address _____

City _____ State _____ Zip _____

AUTOMOTIVE LIFT

SAFETY TIPS

Post these safety tips where they will be a constant reminder to your lift operator. For information specific to the lift, always refer to the lift manufacturer's manual.

1. Inspect your lift daily. Never operate if it malfunctions or if it has broken or damaged parts. Repairs should be made with original equipment parts.
2. Operating controls are designed to close when released. Don't block open or override them.
3. Never overload your lift. Manufacturer's rated capacity is shown on name-plate affixed to the lift.
4. Positioning of vehicle and operation of the lift should be done only by trained and authorized personnel.
5. Never raise vehicle with anyone inside it. Customers or by-standers should not be in the lift area during operation.
6. Always keep lift area free of obstructions, grease, oil, trash and other debris.
7. Before driving vehicle over lift, position arms and supports to provide unobstructed clearance. Do not hit or run over lift arms, adapters, or axle supports. This could damage lift or vehicle.
8. Load vehicle on lift carefully. Position lift supports to contact at the vehicle manufacturer's recommended lifting points. Raise lift until supports contact vehicle. Check supports for secure contact with vehicle. Raise lift to desired working height. CAUTION: If you are working under vehicle, lift should be raised high enough for locking device to be engaged.
9. Note that with some vehicles, the removal (or installation) of components may cause a critical shift in the car center of gravity, and result in raised vehicle instability. Refer to the vehicle manufacturer's service manual for recommended procedures when vehicle components are removed.
10. Before lowering lift, be sure tool trays, stands, etc. are removed from under vehicle. Release locking devices before attempting to lower lift.
11. Before removing vehicle from lift, position lift arms and supports to provide an unobstructed exit (See Item #7).

These "Safety Tips", along with general lift safety materials, are presented as an industry service by the Automotive Lift Institute. Visit our web site at www.autolift.org for more information on this material, or write to P.O. Box 85, Cortland, NY 13045.

Look For This Label on all Automotive Service Lifts.

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AUTOMOTIVE LIFT INSTITUTE
ALI
MEMBER
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AUTOMOTIVE LIFT INSTITUTE, INC.

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